

A FLORISTIC INVENTORY OF MARCO ISLAND (COLLIER COUNTY), FLORIDA

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ABSTRACT

Marco Island, situated within the Gulf of Mexico and near the southern tip of peninsular Florida, exhibits six main kinds of natural habitats together with ruderal land and other disturbed areas. One hundred and eleven families, 324 genera, 461 species, and 470 infrageneric taxa (species, subspecies, varieties, and a hybrid) of vascular plants grow wild on the Island, and 325 of the infrageneric taxa are native to Florida. Individual native taxa inhabit from one to six of each of the six main kinds of natural habitats present. Fourteen of the infrageneric taxa are rare in Florida. *Trichostigma octandrum* is abundant on the Island, but might grow wild at solely two other localities in the United States.

KEY WORDS: Flora, Marco Island, vascular plants

RESUMEN

Marco Island, situada en el Golfo de México y cerca del extremo sur peninsular de Florida, presenta seis tipos principales de hábitats naturales, junto con terrenos ruderales y otras áreas alteradas. En la isla crecen ciento once familias, 324 géneros, 461 especies, y 470 taxa infragenéricos (especies, subespecies, variedades, y un híbrido) de plantas vasculares, y 325 de los taxa infragenéricos son nativos de Florida. Los taxa nativos habitan en uno a seis de cada uno de los seis tipos principales de hábitats naturales presentes. Catorce de los taxa infragenéricos son raros en Florida. *Trichostigma octandrum* es abundante en la Isla, pero pudiera vivir únicamente en otras dos localidades en los Estados Unidos.

INTRODUCTION

This is the second paper of a series concerning the flora of southwestern Florida (Wilder & McCombs 2006). Herein, we present the results of a study of the native and nonnative taxa of vascular plants growing wild on Marco Island, Collier Co., Florida.

We undertook this study for five reasons. First, no published flora existed for Marco Island, overall. Second, the potential for additional residential development had created pressing need for a floristic inventory of the Island that would serve as a “baseline” for future floristic studies. Third, the Island flora appeared unusual compared to the floras of adjacent portions of mainland Florida, and included rare taxa. Fourth, we wished to document the flora by vouchering inventoried species. Previous investigators had produced species lists or accounts of species for parts of the Island, but had not cited herbarium specimens (Beriault 1980; Bradley 1999; James N. Burch [list reproduced in Collier County Facilities Management Department 2007]; Johnson and Muller 1993; Matt Finn and Eileen Ward [lists reproduced in Tsandoulas & Ward 2008]; Natural Areas Management Co., no date; Small 1924, 1929). In contrast, Gann et al. (2002) had cited specimens of rare taxa previously collected on the Island. Fifth, Marco Island, being subtropical, warranted study, because of the diversity and uniqueness of the Floridian subtropical flora.

We undertook a tripartite approach to this investigation. (1) We inventoried the wild native and non-native taxa (Appendix I). (2) We intensively studied selected sites within the main kinds of natural habitats on Marco Island, in order to determine which native taxa occupied each kind of habitats and, for certain habitats, to gauge the frequency of these taxa (Appendix II). (3) We tabulated additional taxa of vascular plants collected by previous investigators on the Island but not encountered during the present study (Appendix I).

Marco Island has long appealed to floristic botanists. In addition to workers, aforementioned, the following noteworthy investigators made botanical visits to the Island: F. Almeda, George N. Avery, Leonard

J. Brass, Walter M. Buswell, Frank C. Craighead, Bruce Hansen, Olga Lakela, Robert W. Long, Harold N. Moldenke, Ruben P. Sauleda, Joseph H. Simpson, Daniel B. Ward, Richard P. Wunderlin, and Alvan W. Chapman (Chapman 1878; Wunderlin & Hansen 2008; Appendix I). John K. Small admired the Island flora at the Caxambas region (Austin 1987; Small 1922, 1923, 1929).

Geography, Climate, and Soils

Marco Island, centered at N 25°56'13.5" and W 81°42'57", is situated by the southern border of Collier County, in southwestern Florida. Encircled by the Gulf of Mexico, the Island is the largest of the Ten Thousand Islands group. Beriault (1980) cited measurements of 7.3 km along a north-south axis and 8.75 km along an east-west axis. Elevations range from sea level to 16 m (Beriault 1980).

Marco Island occurs within an area "...overlapped by a humid subtropical climate and a tropical savanna climate, in which temperatures are moderated by winds from the Gulf of Mexico and the Atlantic Ocean" (Collier County Facilities Management Department 2007). Yearly, there occur a well defined rainy season and dry season. Liudahl et al. (1998) reported seven soil types on Marco Island: urban land; urban land-Immokalee-Oldsmar, limestone substratum, complex; urban land-Aquents complex, organic substratum; udorthents, shaped; Durbin and Wulfert mucks, frequently flooded; Canaveral-Beaches complex; and, Paola fine sand, gently rolling. Wilder and McCombs (2006) reviewed the climate, geology, and soils of Collier County and of adjacent Lee Co.

Historical Sketch

Paleo Indians were the initial inhabitants of Florida, living there 12,000 years ago (Milanich 1994). Beriault (1980), summarizing previous literature, cited a pottery sherd from Marco Island that had been C-14 dated (by association with charcoal) as ca. 5150 years old.

In south Florida, The Calusa Indians succeeded the Paleo Indians. A nonagricultural people, the Calusa Indians hunted, fished, harvested mollusks, and gathered wild plant foods (Gilliland 1989, 1989a; Tebeau 1966). They modified Marco Island, creating canals, a sea wall, reservoirs, and three enormous shell mounds plus many smaller shell mounds. Mounds, composed largely of conch, oyster, and clam shells, were multi-functional, serving as refuse heaps and platforms. One mound, once located at the present site of Goodland on Marco Island, measured 1400 by 1700 feet (Beriault 1980; Tebeau 1965).

Marco Island ranks among the most important of archaeological sites in North America because of Indian artifacts. During 1895–1896 the archaeologist Frank Hamilton Cushing led the famous Pepper-Hearst Expedition to Key Marco (at the northwestern corner of Marco Island). From muck which Cushing interpreted as a courtyard, his team excavated superbly preserved Calusa remains: painted wooden masks, carved figurines, fishing nets, hafted tools, and many other objects (Gilliland 1989, 1989a).

Calusa Indians were in South Florida when Spaniards arrived during the early 1500s, but their civilization plummeted afterward because of warfare, disease, abduction by Europeans, and apparently migration. By 1800 almost all Calusa Indians were gone from the region (Tebeau 1966).

The William T. Collier family was the first permanent non-Indian settlers of Marco Island. Arriving in 1871, they encountered a few "squatters," but found the Island otherwise uninhabited (Perdichizzi 2006; Tebeau 1966). Additional pioneers followed, undertaking farming, construction, and other activities. Pioneers mined the shell mounds to build roads.

Three settlements arose on the Island: Key Marco (to the north; this is indicated as Marco Village, in Fig. 1), Caxambas (to the south), and Goodland (to the east). In 1926 the entire island was incorporated as Collier City (Tebeau 1966), but that municipality was discontinued. In 1998 the City of Marco Island was incorporated and now includes Key Marco, Caxambas, and additional land, but not Goodland (which remains an unincorporated portion of Collier County).

In 1922 Barron G. Collier (not related to W. T. Collier) purchased extensive property on Marco Island. Barron Collier died in 1939 and his descendants sold their Marco-Island holdings to the Deltona Corporation (Waitley 1999).

In 1964–1965 the Deltona Corporation initiated a revolutionary scheme for developing Marco Island,

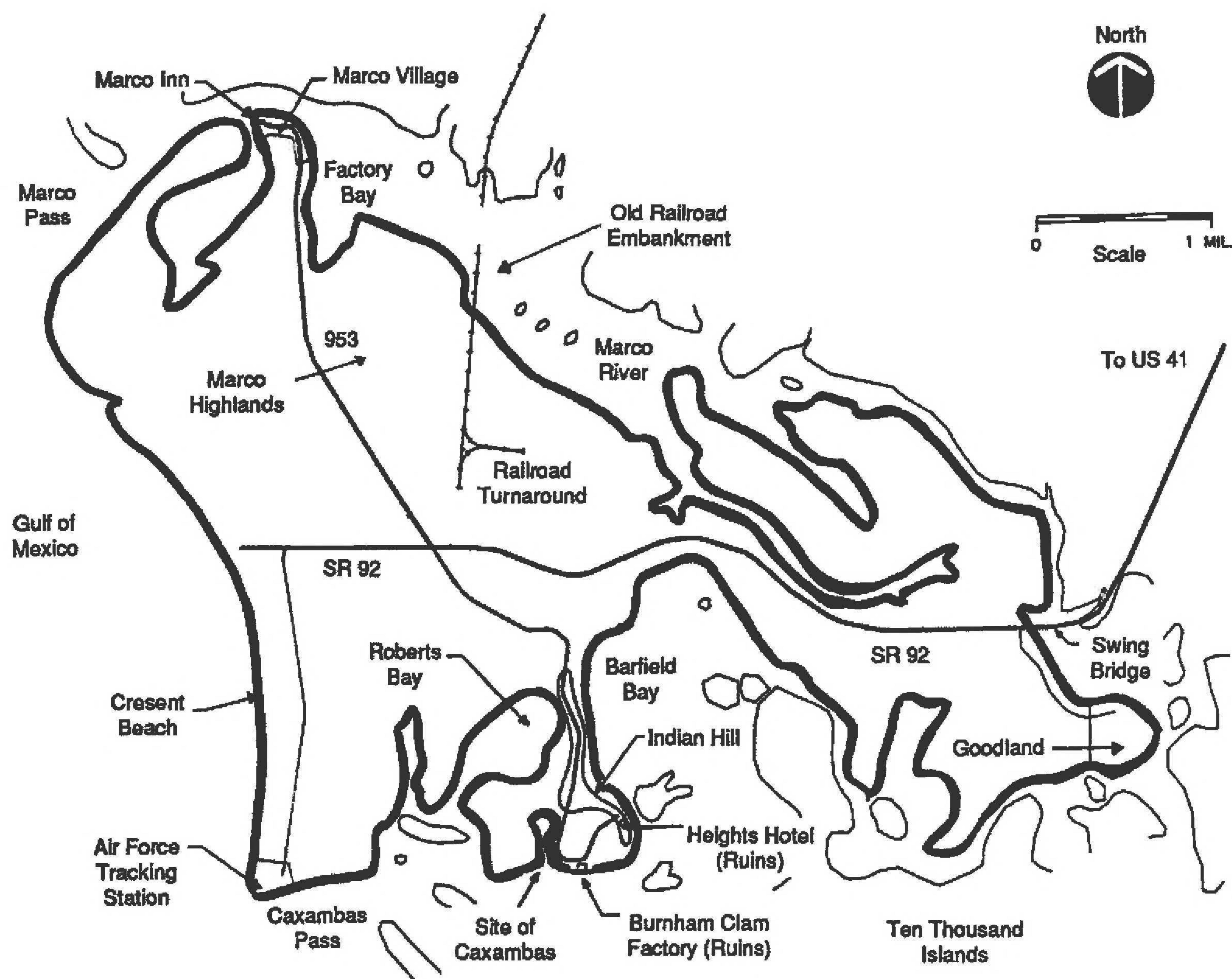


FIG. 1. Map of Marco Island as it appeared in 1962. A thick line demarcates the perimeter of the Island. Modified from Waitley (1999).

of a design and scope likely rivaled in few places elsewhere (cf. Figs. 1, 2). Catastrophic, from an ecological standpoint, the scheme included land clearing; road building; the construction of residential housing, of commercial buildings, of dikes, and of sea walls; dredging, filling, and the concomitant creation of an extensive matrix of many miles of canals (Waitley 1999). The acreage of the Island was increased from ca. 6,800 to 8,374 acres (Ms. Nancy Richie [City of Marco Island City Hall], personal communication of Dec. 8, 2008; Tebeau 1966). Construction obliterated natural areas, undoubtedly diminished taxonomic diversity, and probably rendered one species of plants extinct (*Lechea lakelae*). In the early 1980s, under pressure from government agencies and environmentalists, the Deltona Corporation ceased activities on the Island (Waitley 1999).

Seven main kinds of natural habitats occurred on Marco Island prior to development: mangrove swamps, saltwater marshes, freshwater marshes, pinelands (once covering much of the flat, sandy terrain in the center of the island), dense xeric scrub vegetation, tropical hammock, and unaltered shell mounds (Beriault 1980). Quoting from work of J. Miller and M. Fryman, of 1978, Beriault (1980) also indicated “a dynamic sand beach, shore and lagoon strand.”

METHODS

One hundred and eleven field trips were conducted at Marco Island from 2003–2009, with most visits in 2008. The majority of field work was undertaken during the rainy season (lasting from June through September or October) and early and late in the dry season.

We investigated widespread portions of Marco Island, including publicly owned and privately owned areas. Private properties especially valuable to this study were Hideaway Beach Golf Club and the Key Marco development, each manifesting certain taxa absent elsewhere on the Island.

Except for noting *Sonchus oleraceus*, a European weed broadly dispersed within the United States, we did not inventory plant species at Otter Mound Preserve, a disturbed 2.46 acre shell mound and recently-established Collier County park situated southward on the Island. A home site in the early 1900s, this property was planted repeatedly with native and nonnative species and planting continues today. Repeated

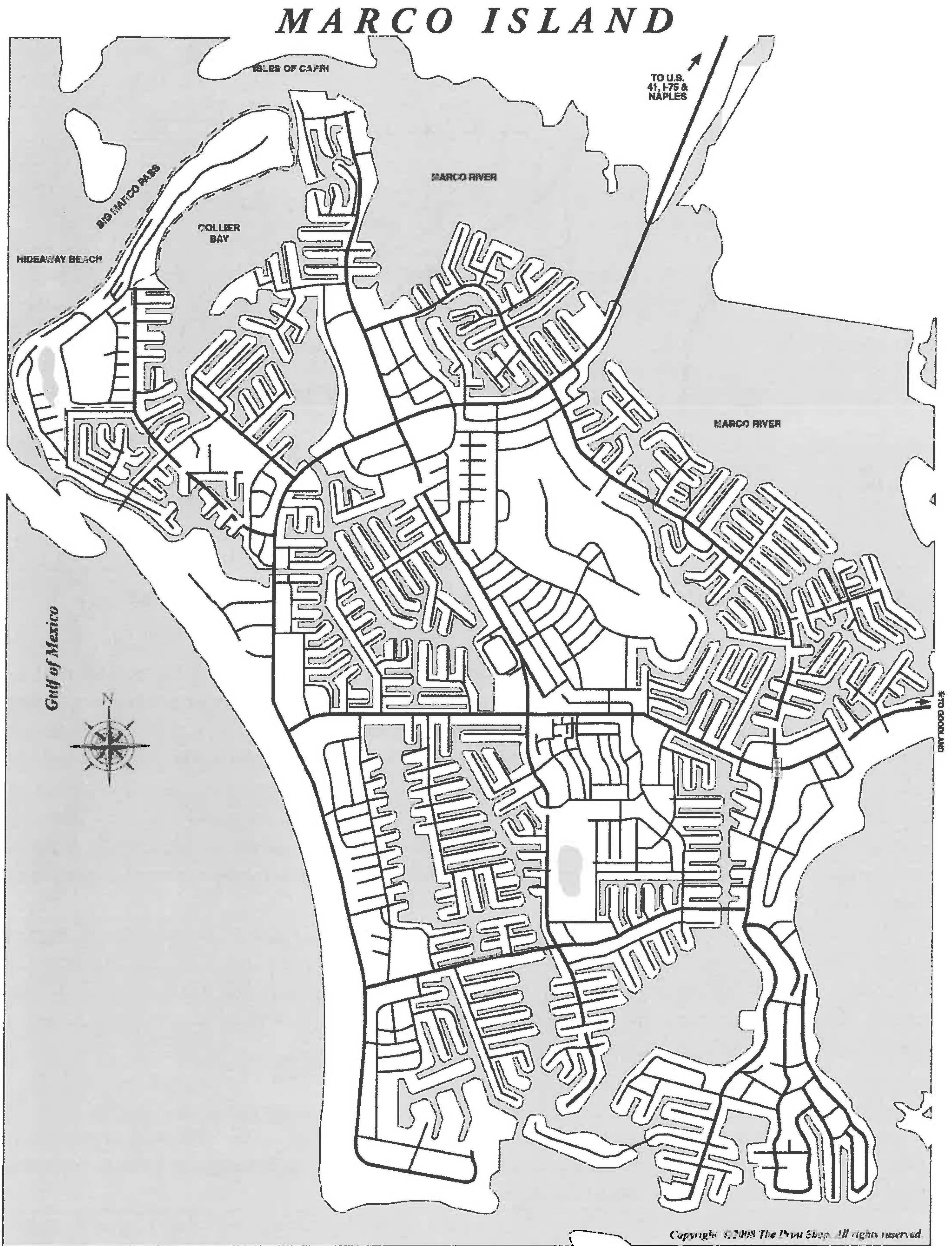


FIG. 2. Map of the western portion of Marco Island, as this portion appears today. Note the increased number of streets and the matrix of numerous canals contiguous with the Gulf of Mexico.

plantings have made it questionable which plants grow there naturally, thus making this area untenable for the present study. James N. Burch—botanist of the Big Cypress National Preserve—had inventoried plants of Otter Mound Preserve during 2007, recording 127 plant species (Collier County Facilities Management Department 2007). Burch listed certain species excluded from our own inventory of Marco Island.

In addition to compiling an island-wide inventory, we determined which native taxa occupied each of the main kinds of natural habitats remaining on the Island (Appendix 2). We did so, by surveying, repeatedly, selected sites of each kind of habitats (Table 1). For coastal tropical hardwood hammock and scrubland we surveyed sites that were fairly uniform in size—each site ca. the size of a housing lot (the sole exception being a larger hammock; Table 1, hammock no. 3). For these two kinds of habitats, the comparable sizes of sites studied enabled us to compare, quantitatively, the frequencies of individual taxa present within each kind of habitats. We surveyed coastal strand vegetation within large areas of Crescent Beach, Hideaway Beach, Sand Dollar Island (a sand spit protruding into the Gulf of Mexico), and Tiger Tail Beach. We surveyed mangrove habitat along the eastern and western sides of the Island. Pine flatwoods was represented by a parcel of second growth, described below.

We documented taxa with dried herbarium specimens (Appendix 1). Specimens have been deposited at the Herbarium of Southwestern Florida (SWF), housed at the Naples Botanical Garden.

We also compiled a list of taxa that previous workers had collected on Marco Island, but that we did not observe there (Appendix 1), based on sources cited in that Appendix. The list is probably incomplete because the sources are still being developed (Virtual Herbarium 2008; New York Botanical Garden 2008; Wunderlin & Hansen 2008).

We characterize taxa as native, alien, and endemic to Florida, according to Wunderlin and Hansen (2003). Mostly, our nomenclature for species and infraspecific taxa follows Wunderlin and Hansen (2003); however, Appendix 1 (footnote 1) specifies nomenclatural differences between that work and the present paper.

Brenda Thomas (of Florida Gulf Coast University [FGCU]) provided GPS readings, using a Garmin 60 CSx GPS unit. Brian Bovard (of FGCU) measured the salinity of a water sample from Marco Lake, using an MR100ATC refractometer at room temperature (Milwaukee Instruments, Rocky Mount, NC). Dr. Bovard undertook two measurements: the first with microorganisms in place, the second with microorganisms removed by centrifugation (3,700 rpm for 10 minutes).

RESULTS AND DISCUSSION

Natural Habitats Remaining on Marco Island

Mangrove forest and coastal strand vegetation are the most abundant kinds of remaining natural habitats. Mangrove forest grows intermittently along/near the shoreline and lagoons. Coastal strand vegetation exists primarily by the western shore of the Island: at Crescent Beach, Tiger Tail Beach County Park, Sand Dollar Island, and Hideaway Beach Golf Club.

Previous workers classified coastal strand vegetation in different ways (Johnson & Barbour 1990). For Marco Island, for purposes of simplicity we define two well-delimited zones of beach habitat, collectively, as coastal strand vegetation: an herbaceous zone and a woody-plant zone. Generally, the herbaceous zone is seaward of the woody-plant zone, and the two zones typically border and interdigitate with one another. Based on terminology of the Florida Natural Areas Inventory (1990), the herbaceous zone includes “beach dune” and “coastal grassland,” whereas the woody-plant zone corresponds to “coastal strand.” The herbaceous zone exhibits primarily herbaceous species, but also includes low-growing woody species and sporadic seedlings, saplings, and stunted individuals of woody species that normally grow larger in other habitats (e.g., species of mangroves). In the woody-plant zone, shrubs and trees are most conspicuous.

Coastal tropical hardwood hammock and scrubland are rare. Hammock remnants survive medially on the Island and westward at Hideaway Beach Golf Club. Scrubland remnants persist more-or-less medially also.

Eliminated totally from Marco Island are saltwater marshes, freshwater marshes, unaltered shell mounds,

TABLE 1. List of certain of the localities cited in this paper. Indicated, sequentially for each locality are GPS coordinates, the potential error of these coordinates, the street bordering the locality, and the side of that street nearest the locality (listed between parentheses). For localities exhibiting *Trichostigma octandrum* habitats are also listed. **E** = east; **N** = north; **S** = south; **W** = west.

SELECTED REMNANTS OF COASTAL TROPICAL HARDWOOD HAMMOCK

1. N 25° 56.198', W 81° 40.936', ± 18 ft; Sheffield Ave. (N)
2. N 25° 56.227', W 81° 41.359', ± 16 ft; Sheffield Ave. (S)
3. N 25° 56.303', W 81° 41.138', ± 16 ft; San Marco Dr. (N)
4. N 25° 56.133', W 81° 41.616', ± 20 ft; Sheffield Ave. (S)
5. N 25° 56.228', W 81° 41.156', ± 20 ft; Sheffield Ave. (S)
6. N 25° 55.804', W 81° 40.636', ± 16 ft; Whiskey Creek Dr. (W)
7. N 25° 57.766', W 81° 44.545', ± 17 ft; Royal Marco Way (E)

SELECTED REMNANT OF PINE FLATWOODS

- N 25° 57.089', W 81° 43.428', ± 19 ft - Bald Eagle Dr. (W)

SELECTED REMNANTS OF SCRUBLAND

1. N 25° 55.048', W 81° 42.012', ± 14 ft; S. Barfield Dr. (E)
2. N 25° 56.282', W 81° 41.299', ± 14 ft; San Marco Dr. (S)
3. N 25° 56.253', W 81° 41.407', ± 13 ft; Sheffield Dr. (N)
4. N 25° 54.899', W 81° 41.735', ± 14 ft; Caxambas Dr. (E)
5. N 25° 55.016', W 81° 41.949', ± 14 ft; Inlet Dr. (W)
6. N 25° 56.819', W 81° 43.212', ± 15ft; Bald Eagle Dr. (E)

LOCATIONS OF WILD POPULATIONS OF *TRICHOSTIGMA OCTANDRUM*

1. N 25° 54.753', W 81° 41.933', ± 16 ft; Addison Ct. (N); a field containing tree islands; 8 of these islands exhibit *Trichostigma*
 2. N 25° 55.044', W 81° 42.001', ± 15 ft; S. Barfield Dr. (E); by disturbed scrubland
 3. N 25° 54.943', W 81° 41.776', ± 11 ft; Caxambas Dr. (E); disturbed land situated behind scrubland
 4. N 25° 54.927', W 81° 41.720', ± 19 ft; Caxambas Dr. (E); disturbed land
 5. N 25° 54.780', W 81° 41.586', ± 19 ft; Caxambas Dr. (E); peripheral portion of forest
 6. N 25° 54.651', W 81° 41.636', ± 18 ft; Caxambas Dr. (N of the 180° turn); abundant on trees along a large field
 7. N 25° 55.373', W 81° 41.891', ± 16 ft; Inlet Dr. (E); disturbed land
 8. N 25° 54.682', W 81° 41.830', ± 13 ft; Inlet Dr. (E); tree island within field
 9. N 25° 55.169', W 81° 41.945', ± 16 ft; Inlet Dr. (W); disturbed land
 10. N 25° 54.913', W 81° 42.147', ± 17 ft; Ludlow Rd. (N); disturbed land
 11. N 25° 54.947', W 81° 42.274', ± 17 ft; Ludlow Rd. (N); disturbed scrubland
 12. N 25° 54.786', W 81° 41.734', ± 17 ft; Scott Dr. (E); disturbed land
 13. N 25° 56.133', W 81° 41.620', ± 23 ft; Sheffield Ave. (S); coastal tropical hardwood hammock
 14. N 25° 56.203', W 81° 41.503', ± 22 ft; Sheffield Ave. (S); coastal tropical hardwood hammock
 15. N 25° 56.103', W 81° 41.693', ± 22 ft; Sheffield Ave. (S); coastal tropical hardwood hammock
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and original pine flatwoods. A small parcel of flatwoods exists, as do a few highly disturbed pineland fragments, but the flatwoods is misleading. The parcel was stripped of vegetation and used as a borrow pit. Vegetation reappeared naturally, as second growth. In 1984, following re-growth of the vegetation, the parcel was dedicated as a nature park, but the park was abandoned (Natural Areas Management Co., no date; The Marco Island Eagle 1984).

A few artificial ponds exist. At least one pond (Marco Lake) exhibits fresh water (Brian Bovard; salinity measurement of Dec. 4, 2008). We noted species at the periphery of Marco Lake that we did not observe elsewhere on the Island (e.g., *Eleocharis interstincta*, *Ipomoea sagittata*, *Lygodium microphyllum*, *Melaleuca quinquenervia*, and *Thelypteris interrupta*).

Taxonomic Analysis of Present Data

The flora of Marco Island includes 111 families, 324 genera, 461 species, and 470 infrageneric taxa (species, varieties, subspecies, and a hybrid; appendix I). Between parentheses, the numbers of families, genera, and infrageneric taxa are indicated, respectively, for each of the following major groups of vascular plants:

pteridophytes (10, 13, 19), gymnosperms (1, 1, 1), angiosperms (100, 310, 450), monocotyledons (17, 67, 134), and dicotyledons (83, 243, 316). For infrageneric taxa of each of these major groups, their percentage of all 470 infrageneric taxa is listed: pteridophytes, 4.0%; gymnosperms, 0.2%; angiosperms, 95.7%; monocotyledons, 28.5%; and dicotyledons, 67.2%.

The eight largest families of monocotyledons on Marco Island, as gauged by the numbers of infrageneric taxa present, are Poaceae (64), Cyperaceae (34), Bromeliaceae (8), Agavaceae (4), Commelinaceae (4), Amaryllidaceae (3), Arecaceae (3), and Orchidaceae (3) (for each family, the number of infrageneric taxa is listed between parentheses). The families Poaceae and Cyperaceae, collectively, exhibited 20.9% of all 470 infrageneric taxa listed (i.e., 98 infrageneric taxa).

The eight largest families of dicotyledons on the Island, as gauged by the numbers of infrageneric taxa present, are Fabaceae (43), Asteraceae (42), Euphorbiaceae (22), Rubiaceae (17), Amaranthaceae (8), Malvaceae (8), Myrtaceae (8), and Convolvulaceae (7). The families Fabaceae and Asteraceae, collectively, exhibited 18.1% of all 470 infrageneric taxa listed (i.e., 83 infrageneric taxa).

Native and Endemic Taxa Inventoried During the Present Study

Sixty nine and eight tenths percent of all 470 infrageneric taxa are native to Florida (i.e., 328 taxa; Wunderlin and Hansen 2003). The percentage of native infrageneric taxa within each major group of vascular plants is listed: pteridophytes (73.7%), gymnosperms (100%), angiosperms (69.6%), monocotyledons (68.7%), and dicotyledons (69.9%).

Ten infrageneric taxa presently inventoried are endemic to Florida (Wunderlin and Hansen 2003): *Agave decipiens*, *Asimina reticulata*, *Chamaesyce cumulicola*, *Coreopsis leavenworthii*, *Croton glandulosus* var. *floridanus*, *Helianthemum nashii*, *Palafoxia feayi*, *Polygonella polygama* var. *brachystachya*, *Rhynchosia cinerea*, and *Stipulicida setacea* var. *lacerata*.

Native Taxa and Natural Habitats

Appendix II represents the 221 to 226 native infrageneric taxa that we inventoried at selected sites within the six main kinds of natural habitats on Marco Island (the number of taxa is approximate because we could not assign species names to certain sterile or otherwise unidentifiable specimens).

Each infrageneric taxon inhabited from one to six of these main kinds of natural habitats (Appendix II). Groups of three numbers are presented; within each group the numbers represent, sequentially: (a) a particular number of habitats (written in script), and (b, c) the number and percentage of the 226 taxa which occupied that number of habitats (indicated with numerals and between parentheses): one (108, 47.8%); two (66, 29.2%); three (29, 12.8%); four (15, 6.6%); five (5, 2.2%); and six (3, 1.3%). These data manifest pronounced negative correlation between the number of habitats occupied and the number of taxa represented. Proceeding stepwise through the data, from one to four habitats, each step entails, roughly, an exponential (ca. two-fold) decrease in the number of taxa.

We designate as especially facultative those 10.2% of taxa that occurred in four to six of the main kinds of habitats surveyed. *Chrysobalanus icaco*, *Sabal palmetto*, and *Toxicodendron radicans* inhabited all six kinds. Twenty additional taxa occupied four or five kinds: *Alternanthera flavescens*, *Bursera simaruba*, *Caesalpinia bonduc*, *Coccoloba uvifera*, *Cyperus ligularis*, *Dalbergia ecastaphyllum*, *Ficus* sp., *Fimbristylis cymosa*, *Iresine diffusa*, *Parthenocissus quinquefolia*, *Piscidia piscipula*, *Quercus virginiana*, *Rapanea punctata*, *Serenoa repens*, *Sideroxylon celastrinum*, *Smilax auriculata*, *Tillandsia fasciculata*, *Tillandsia usneoides*, *Vitis rotundifolia*, and *Yucca aloifolia* (Appendix II).

For coastal tropical hardwood hammock and scrubland, the fractions in Appendix II serve as measures of relative frequencies of taxa. For each fraction, the numerator indicates the number of sites of a given habitat that exhibited a particular taxon, the denominator signifies the total number of sites of that habitat evaluated. Thus, a fraction equaling the number one indicates a taxon that occupied all sites studied of a habitat, whereas, fractions of less than one represent taxa present at fewer sites.

Within coastal tropical hardwood hammock, we noted twenty-seven taxa at five to seven (71% to 100%) of the seven sites investigated: *Bursera simaruba*, *Callicarpa americana*, *Chiococca alba*, *Chrysobalanus icaco*,

Chrysophyllum oliviforme, *Eugenia axillaris*, *Ficus aurea*, *Parthenocissus quinquefolia*, *Persea borbonia*, *Phlebodium aureum*, *Piscidia piscipula*, *Pleopeltis polypodioides*, *Psychotria nervosa*, *Quercus virginiana*, *Randia aculeata*, *Rapanea punctata*, *Rivina humilis*, *Sabal palmetto*, *Schoepfia chrysophylloides*, *Serenoa repens*, *Sideroxylon celastrinum*, *Sideroxylon foetidissimum*, *Tillandsia fasciculata*, *Tillandsia setacea*, *Tillandsia usneoides*, *Toxicodendron radicans*, and *Vitis rotundifolia*. Based on our criterion for relative frequency, we rank these taxa as the most frequent hammock taxa within the sites surveyed. Remaining taxa occupied fewer sites.

Within scrubland, we noted 27 taxa at four to six (67% to 100%) of the six sites investigated: *Bulbostylis ciliatifolia*, *Bursera simaruba*, *Cassytha filiformis*, *Cenchrus spinifex*, *Chamaecrista fasciculata*, *Chamaesyce cumulicola*, *Cyperus retrorsus*, *Heterotheca subaxillaris*, *Lyonia fruticosa*, *Opuntia humifusa*, *Palafoxia feayi*, *Polygonella polygama* var. *brachystachya*, *Psychotria nervosa*, *Quercus geminata*, *Quercus myrtifolia*, *Rhus copallinum*, *Serenoa repens*, *Vitis rotundifolia*, *Callicarpa americana*, *Licania michauxii*, *Persea borbonia*, *Polanisia tenuifolia*, *Sideroxylon tenax*, *Smilax auriculata*, *Tillandsia recurvata*, *Tillandsia usneoides*, and *Ximenia americana*.

Applying the same criterion as before, we rank these taxa as the most frequent of scrubland taxa within the sites surveyed. Remaining taxa occupied fewer sites.

We did not observe all native taxa of Marco Island at the sites represented in Appendix II. Certain taxa grew within portions of natural habitats outside of these sites. Additional native taxa grew in ruderal habitat or in other kinds of disturbed areas.

FLEPPC Species

The Florida Exotic Pest Plant Council (FLEPPC) recognizes two categories of plant species alien to Florida, that pose especial threats to the ecology of the State, overall, i.e., Category I and Category II (these categories indicate decreasing degree of threat; Florida Exotic Pest Plant Council 2008).

Alien species abound on Marco Island. During the present study, we inventoried 27 Category I species and 19 Category II species (i.e., 40.3 % and 27.1% of all 67 and 70 species in these categories, respectively). Indicated, in Appendix I are all Category I and Category II species that we inventoried on Marco Island.

Taxa Collected by Previous Workers

Previous investigators collected at least 40 infrageneric taxa on Marco Island that we did not observe (appendix I, infrageneric taxa listed with bold font). Eighty five percent of these taxa were native (34 taxa). Four taxa were endemic to Florida: *Lechea cernua*, *Lechea divaricata*, *Lechea lakelae*, and *Stylisma abdita*. The 40 taxa constitute 7.8% of all 510 infrageneric taxa reported by us and by previous workers.

Small (1922) also reported *Pinus clausa* and *Persea palustris* (Raf.) Sarg. and Chapman (1878) indicated *Aristida gyrans* n. sp. (at "Robert's Key") and *Pectis ciliaris* L. (at "Collier's Key"); however, neither worker cited voucher specimens.

Rare Taxa Reported Presently and by Previous Investigators

Rare taxa that we (and in some cases, previous investigators) collected include: *Acanthocereus tetragonus*, *Acrostichum aureum*, *Chamaesyce cumulicola*, *Chrysophyllum oliviforme*, *Clitoria mariana*, *Myrcianthes fragrans*, *Scaevola plumieri*, *Scleria ciliata* var. *curtissii*, *Tillandsia balbisiana*, *T. fasciculata*, *T. flexuosa*, *T. utriculata*, *Trichostigma octandrum*, and *Triplasis americana*. Previous workers collected additional rare taxa (Table 2, Appendix I). Table 2 provides assessments of the rarity of these taxa (Coile & Garland 2003; Gann et al. 2002).

Lechea lakelae is the rarest of species previously reported from Marco Island, and is known with certainty solely from there. Olga Lakela first collected *L. lakelae* on the Island in 1964 and participated in most subsequent collecting of that species. The species was last collected on the Island in 1987 (Gann et al. 2002). We failed to locate *L. lakelae*, despite considerable searching, and we suspect that the species is extinct—a victim of development. Probably, other taxa listed in Table 2 have been extirpated from the Island, also.

The presence of wild *Trichostigma octandrum* on Marco Island is noteworthy. Previously unreported from Marco Island, this species of high-climbing vines now grows in at least 15 discrete locations (Table 1). Plants of *T. octandrum* also grow at Otter Mound Preserve and we suspect that at least some were formerly cultivated, based on the regular spacing between them. The wild populations compose two groups on the

TABLE 2. List of rare plant taxa of Marco Island. Included, are taxa collected both during this study and by previous workers. Rankings of rarity are for Florida (Coile and Garland 2003) and for south Florida (Gann et al. 2002). **Crit. imp.** = critically imperiled; **End.** = endangered; **Hist.** = historical; **Threat.** = threatened.

Taxon	Coile and Garland (2003)	Gann et al. (2002)
<i>Acanthocereus tetragonus</i>	Threat.	
<i>Acrostichum aureum</i>	Threat.	
<i>Amorpha herbacea</i> var. <i>herbacea</i>		Hist.
<i>Asclepias tomentosa</i> ¹		Hist.
<i>Cenchrus myosuroides</i>		Crit. imp.
<i>Chamaesyce cumulicola</i>	End.	
<i>Chrysophyllum oliviforme</i>	Threat.	
<i>Clitoria mariana</i>		Crit. imp.
<i>Eleocharis albida</i>		Crit. imp.
<i>Gymnopogon chapmanianus</i>		Crit. imp.
<i>Indigofera trita</i>	End.	Crit. imp.
<i>Lechea cernua</i>	Threat.	
<i>Lechea divaricata</i>	End.	
<i>Lechea lakelae</i>	End.	Hist.
<i>Myrcianthes fragrans</i>	Threat.	
<i>Scaevola plumieri</i>	Threat.	
<i>Scleria ciliata</i> var. <i>curtissii</i>		Crit. imp.
<i>Solanum donianum</i>	Threat.	
<i>Stylisma abdita</i>	End.	Crit. imp.
<i>Tillandsia balbisiana</i>	Threat.	
<i>Tillandsia fasciculata</i>	End.	
<i>Tillandsia flexuosa</i>	Threat.	
<i>Tillandsia utriculata</i>	End.	
<i>Trichostigma octandrum</i>	End.	Crit. imp.
<i>Triplasis americana</i>		Crit. imp.
<i>Viola primulifolia</i>		Crit. imp.

¹After submitting the revised manuscript of this paper we observed one individual of *Asclepias tomentosa* from Marco Island (Wilder & McCombs 29783, a portion of the shoot).

Island: a southern group situated more-or-less near the Preserve, and a medially located group associated with Sheffield Ave. These populations grow in remnants of coastal tropical hardwood hammock and scrubland, on tree island(s) within fields, and within disturbed land (most populations; Table 1).

Trichostigma octandrum exists in Florida at the northern limit of its range, and the species is unknown outside of Florida in the United States. Southward it ranges from Cuba to Venezuela and Peru (Austin 2004). Wunderlin and Hansen (2003) considered *T. octandrum* native to Florida, and Gann et al (2002) ranked this species as Critically Imperiled in south Florida. Austin (2004), however, concluded that “we do not know” whether *T. octandrum* is native or alien in Florida.

Previous workers had reported *T. octandrum* from five sites in Florida. In 1891 Joseph H. Simpson first discovered the species on Chokoloskee Island (Collier Co.), a location ca. 23 miles from Marco Island (as measured from the Caxambas region of Marco Island). Investigators subsequently located it on Pumpkin Key (Monroe Co.), in Miami (Miami-Dade Co.), and in the Big Cypress National Preserve (county unspecified). In 2000, Michael Anderson discovered the species in Water Conservation Area 3A (Broward Co.; Gann et al. 2002). Gann et al. (2002), citing habitat destruction at various locations, considered the plants at Conservation Area 3A as “... apparently the only extant occurrence in Florida.”

An unpublished discovery of one plant of *T. octandrum* was made on a shell mound at Everglades National Park, by Jesse Hoffmann (Jimi Sadle, pers. comm., 28 Jan 2009; Sadle vouchered this individual [J. Sadle 553, FNPS]).

We do not know whether *Trichostigma octandrum* is native to Marco Island. Perhaps, the wild populations there are escapes from the apparently cultivated individuals at Otter Mound Preserve. The absence of previous reports/collections of *T. octandrum* from Marco Island suggests that the wild plants are not original. In contrast, the proximity of Marco Island to Chokoloskee Island suggests that the species might be native to Marco Island. If *T. octandrum* is native on Marco Island, then plants growing at the Preserve may have been acquired from nature on Marco Island, or they may be the offspring of wild plants there.

Chamaesyce cumulicola, *Myrcianthes fragrans*, and *Scaevola plumieri* are fairly common on Marco Island, yet, Coile and Garland (2003), the Florida Natural Areas Inventory (2008), and Gann et al. (2002), collectively, considered these species rare in South Florida.

Many native species are rare on Marco Island that vary from rare to common in Florida. Native species with one to ca. several individuals observed on the Island during this study include *Acanthocereus tetragonus*, *Acer rubrum*, *Andropogon ternarius*, *Aristida condensata*, *Asimina reticulata*, *Baccharis angustifolia*, *Bucida buceras*, *Capparis cynophallophora*, *Capparis flexuosa*, *Capsicum annum*, *Carex longii*, *Chrysopogon pauciflorus*, *Chrysopsis scabrella*, *Clitoria mariana*, *Hamelia patens*, *Helianthemum nashii*, *Heliotropium curassavicum*, *Herissantia crispa*, *Hymenocallis latifolia*, *Ipomoea sagittata*, *Lechea sessiliflora*, *Liatris tenuifolia*, *Neptunia pubescens*, *Osmunda regalis*, *Parietaria floridana*, *Pentalinon luteum*, *Pisonia aculeata*, *Pluchea carolinensis*, *Polystachya concreta*, *Psilotum nudum*, *Scleria ciliata* var. *curtissii*, *Seymeria pectinata*, *Smilax bona-nox*, *Sorghastrum secundum*, *Thelypteris kunthii*, *Tournefortia volubilis*, and *Vaccinium myrsinites*.

CONCLUSIONS

Marco Island exhibits fewer wild taxa than one might expect on the basis of its considerable area and subtropical character. We attribute the apparent deficit of taxa to the extensive development of the Island and to the elimination of fresh water wetlands, saltwater marshes, and original pine flatwoods.

The Island flora exhibits/exhibited striking differences from the floras of adjacent portions of mainland Collier County. (1) *Persea borbonia* is frequent on Marco Island, yet, we have never observed it in mainland Collier County. (2) *Sideroxylon tenax* is abundant on Marco Island but is absent or uncommon within mainland Collier County. (3) *Sideroxylon reclinatum* is frequent in mainland Collier County, but is absent from Marco Island. (4) *Prunus caroliniana* composes one disjunct, albeit ample population on Marco Island, located within scrubland. We do not know whether the population is native. Within eastern Florida, the nearest populations of *P. caroliniana* occur three counties northward (in De Soto Co. and Sarasota Co.; Wunderlin and Hansen, 2008). (5) Since its discovery in 1964, *Lechea lakelae* has been known unequivocally, solely, from Marco Island.

APPENDIX I ¹

List of taxa documented for Marco Island (plus *Cocos nucifera* L., which was recorded but not documented during this study). Nonbold font signifies infrageneric taxa (species, a hybrid, subspecies, and varieties) documented during the present investigation. Infrageneric taxa that previous workers documented but that were not observed during the present study are listed with bold font. Solely one voucher specimen represents each infrageneric taxon. For infrageneric taxa documented during this study, data are presented as follows after the Latin name of a taxon: relevant synonym, if any (between brackets); common name; the Wilder and McCombs collection number² of a voucher specimen; the habitat where the specimen was collected; and the designation of the taxon, if any, by the Florida Exotic Plant Pest Council. For infrageneric taxa documented solely by previous investigators, data are provided as follows after the Latin name of a taxon: relevant synonym, if any (between brackets); common name; collector; collection number; collection date; and acronym of the herbarium where the specimen is on deposit.³ After the name of each family and suprafamilial taxon, between parentheses are included two or four numbers; the two numbers not in italics—if present—signify, respectively, the numbers reported presently of genera and infrageneric taxa within that family or suprafamilial taxon; the two numbers in italics—if present—signify, respectively, the sums of numbers reported presently and by previous workers, of such genera and infrageneric taxa. * = alien to Florida; ♂ = endemic to Florida; FLEPPC I and FLEPPC II = taxa recognized as Category I or Category II species by the Florida Exotic Plant Pest Council (2008).

PTERIDOPHYTES (13, 19)**BLECHNACEAE (2, 2)**

Blechnum serrulatum Rich., Swamp Fern—28501; pine flatwoods

Woodwardia virginica (L.) Sm., Virginia Chain Fern—28505; pine flatwoods

DENNSTAEDTIACEAE (1, 2)

Pteridium aquilinum var. *caudatum* (L.) Sadeb., Lacy Bracken—28445; edge of scrubland

Pteridium aquilinum var. *pseudocaudatum* (Clute) Clute ex A. Heller, Tailed Bracken—28503; coastal tropical hardwood hammock

LYGODIACEAE (1, 1)

**Lygodium microphyllum* (Cav.) R. Br., Old World Climbing Fern—28689; climbing on other vegetation rooted in shallow water of Marco Lake; FLEPPC I

NEPHROLEPIDACEAE (1, 4)

**Nephrolepis biserrata* (Sw.) Schott cultivar—29137; periphery of oak-*Sabal* hammock

**Nephrolepis cordifolia* (L.) C. Presl, Tuberous Sword Fern—28437; scrubland; FLEPPC I

Nephrolepis exaltata (L.) Schott, Sword Fern—27875; coastal tropical hardwood hammock

**Nephrolepis multiflora* (Roxb.) F.M. Jarrett ex C.V. Morton, Asian Sword Fern—28752; coastal tropical hardwood hammock; FLEPPC I

OSMUNDACEAE (1, 1)

Osmunda regalis L., Royal Fern—28489; pine flatwoods

POLYPODIACEAE (2, 2)

Phlebodium aureum (L.) J. Sm., Golden Polypody—28502; pine flatwoods

Pleopeltis polypodioides (L.) E.G. Andrews & Windham, Resurrection Fern—27599; coastal tropical hardwood hammock

PSILOTACEAE (1, 1)

Psilotum nudum (L.) P. Beauv., Whisk-Fern—28751; along boardwalk traversing woody-plant zone of coastal strand vegetation

PTERIDACEAE (2, 3)

Acrostichum aureum L., Golden Leather Fern—28407; along boardwalk traversing mangrove habitat

Acrostichum danaeifolium Langsd. & Fisch., Giant Leather Fern—28408; at/near periphery of mangrove habitat

**Pteris vittata* L., Chinese Ladder Brake—28490; periphery of coastal tropical hardwood hammock; FLEPPC II

THELYPTERIDACEAE (1, 2)

Thelypteris interrupta (Willd.) K. Iwats., Hottentot Fern—28931; by shore of Marco Lake

Thelypteris kunthii (Desv.) C.V. Morton, Southern Shield Fern—28551; disturbed land

VITTARIACEAE (1, 1)

Vittaria lineata (L.) Sm., Shoestring Fern—27874; coastal tropical hardwood hammock

GYMNOSPERM (1, 1)**PINACEAE (1, 1)**

Pinus elliottii Engelm., Slash Pine—28479; pine flatwoods

MONOCOTYLEDONS (67, 134; 73, 147)**AGAVACEAE (2, 4)**

α*Agave decipiens* Baker, False Sisal—28594; disturbed land

**Agave sisalana* Perrine, Sisal Hemp—28561; coastal strand vegetation; FLEPPC II

**Agave vivipara* L., Century Plant—27994; scrubland

Yucca aloifolia L., Spanish Bayonet—28726; coastal strand vegetation

ALISMACEAE (1, 1)

Sagittaria lancifolia L., Bulltongue Arrowhead—28943; by shore of Marco Lake

AMARYLLIDACEAE (2, 3)

Crinum americanum L., String-Lily—28742; coastal tropical hardwood hammock

**Crinum asiaticum* L., Poisonbulb—28727; scrubland

Hymenocallis latifolia (Mill.) M. Roem., Mangrove Spiderlily—28728; herbaceous zone of coastal strand vegetation

ARACEAE (2, 2)

**Epipremnum pinnatum* (L.) Engl., Golden Pothos—29172; coastal tropical hardwood hammock; FLEPPC II

**Syngonium podophyllum* Schott, American Evergreen—28944; disturbed land; FLEPPC I

ARECACEAE (3, 3)

**Cocos nucifera* L., Coconut Palm – coconut with attached seedling, on beach

Sabal palmetto (Walter) Lodd. ex Schult. & Schult. f., Cabbage Palm—29212; disturbed remnant of pine flatwoods

Serenoa repens (W. Bartram) Small, Saw Palmetto—28625; pine flatwoods

ASPARAGACEAE (1, 1)

**Asparagus aethiopicus* L., Sprenger's Asparagus-Fern—28663; coastal strand vegetation; FLEPPC I

BROMELIACEAE (1, 8)

Tillandsia balbisiana Schult. & Schult. f., Northern Needleleaf—27934; coastal tropical hardwood hammock

Tillandsia fasciculata Sw., Cardinal Airplant—29213; coastal tropical hardwood hammock

Tillandsia flexuosa Sw., Twisted Airplant—27646; coastal tropical hardwood hammock

Tillandsia paucifolia Baker, Potbelly Airplant—28005; disturbed land

Tillandsia recurvata (L.) L., Ballmoss—28006

Tillandsia setacea Sw., Southern Needleleaf—27766; disturbed land

Tillandsia usneoides (L.) L., Spanish Moss—28271; scrubland

Tillandsia utriculata L., Giant Airplant—29214; found lying on forest floor

CANNACEAE (1, 1)

**Canna ×generalis* L.H. Bailey, Garden Canna, Olga Lakela 29067 with D. Laker; 20 Aug 1965 (USF)

COMMELINACEAE (2, 4)

**Commelina diffusa* Burm. f., Dayflower—28419; disturbed land

Commelina erecta L., Whitemouth Dayflower—28597; disturbed land

**Tradescantia pallida* (Rose) D.R. Hunt, Purplequeen—28420; disturbed land

**Tradescantia zebrina* Bosse, Wandering-Jew—28820; coastal tropical hardwood hammock

CYMODOCEACEAE (1, 1)

Halodule wrightii Asch., Shoalweed—28814; shallow water of bay

CYPERACEAE (11, 34; 11, 37)

**Bulbostylis barbata* (Rottb.) C.B. Clarke, Watergrass—28805; highly insolated, cleared land

Bulbostylis ciliatifolia (Elliott) Fernald, Capillary Hairsedge—28320; scrubland

Bulbostylis stenophylla (Elliott) C.B. Clarke, Sandyfield Hairsedge—28938; scrubland

Carex longii Mack., Long's Sedge—28449; highly insolated lawn

Cladium jamaicense Crantz, Jamaica Swamp Sawgrass—28513; pine flatwoods

Cyperus compressus L., Poorland Flatsedge—29103; highly insolated lawn

Cyperus croceus Vahl, Baldwin's Flatsedge—29045; disturbed land

**Cyperus esculentus* L., Yellow Nutgrass—28819; highly insolated, cleared land

Cyperus flavescens L., Yellow Flatsedge—28900; wet portion of highly insolated tree lawn

Cyperus haspan L., Haspan Flatsedge—29167; insolated shore of Marco Lake

Cyperus ligularis L., Swamp Flatsedge—29047; herbaceous zone of coastal strand vegetation

Cyperus odoratus L., Fragrant Flatsedge—29136; oak-Sabal hammock

Cyperus polystachyos Rottb., Manyspike Flatsedge—29106; highly insolated lawn

**Cyperus pumilus* L., Low Flatsedge—29168; boundary between lawn and brackish wetland

Cyperus retrorsus Chapm., Pinebarren Flatsedge—29081; scrubland

**Cyperus rotundus* L., Nutgrass—28499; tree lawn

**Cyperus sphacelatus* Rottb., Roadside Flatsedge—28994; highly insolated lawn

***Cyperus squarrosus* L., Bearded Flatsedge, Olga Lakela 29238, 1965 (NY, USF)**

Cyperus surinamensis Rottb., Tropical Flatsedge—29108; in ditch situated within highly insolated ruderal land

Cyperus tetragonus Elliott, Fourangle Flatsedge—28854; shaded, overgrown scrubland

***Eleocharis albida* Torr., White Spikerush, Olga Lakela 30960, 1967 (USF)**

***Eleocharis baldwinii* (Torr.) Chapm., Baldwin's Spikerush, Olga Lakela 31680, 21 Sep, 1968 (USF)**

Eleocharis cellulosa Torr., Gulf Coast Spikerush—28809; insolated portion of mangrove habitat

Eleocharis geniculata (L.) Roem. & Schult., Canada Spikerush—28626; highly insolated lawn

Eleocharis interstincta (Vahl) Roem. & Schult., Knotted Spikerush—28810; by shore of Marco Lake

Fimbristylis caroliniana (Lam.) Fernald; Carolina Fimbry—28811; herbaceous zone of coastal strand vegetation

Fimbristylis cymosa R. Br., Hurricanegrass—28418; herbaceous zone of coastal strand vegetation

Fimbristylis spadicea (L.) Vahl, Marsh Fimbry—28813; herbaceous zone of coastal strand vegetation

Fuirena scirpoidea Michx., Southern Umbrellasedge—28939; by shore of Marco Lake

**Kyllinga brevifolia* Rottb., Shortleaf Spikesedge—28903; shrub bed

**Kyllinga squamulata* Thonn. ex Vahl; Asian Spikesedge—29170; lawn

**Lipocarpa aristulata* (Coville) G.C. Tucker, Awned Halfchaff Sedge—28857; wet portion of lawn

Lipocarpa micrantha (Vahl) G.C. Tucker, Smallflower Halfchaff Sedge—29201; woody-plant zone of coastal strand vegetation

Rhynchospora colorata (L.) H. Pfeiff. [*Dichromena colorata* (L.) Hitchc.], Starrush Whitetop—28514; herbaceous zone of coastal strand vegetation

Rhynchospora megalocarpa A. Gray, Sandyfield Beaksedge—28940; scrubland

Scleria ciliata var. *curtissii* (Britton ex Small) J.W. Kessler, Curtiss' Nutrush—28942; scrubland

Scleria triglomerata Michx., Tall Nutgrass—28500; scrubland

DIOSCOREACEAE (1, 1)

**Dioscorea bulbifera* L., Air-Potato—28821; on mangrove vegetation by parking lot; FLEPPC ↓

IRIDACEAE (1, 1)

***Sisyrinchium angustifolium* Mill., Narrowleaf Blue-Eyed Grass, F.C. Craighead sn, 24 Mar 1964 (FTG)**

JUNCACEAE (1, 1; 1, 2)

Juncus marginatus Rostk., Shore Rush—28948; by shore of Marco Lake

***Juncus repens* Michx., Lesser Creeping Rush, Olga Lakela 30847, date unspecified (USF)**

ORCHIDACEAE (3, 3)

Encyclia tampensis (Lindl.) Small, Florida Butterfly Orchid—29109; coastal tropical hardwood hammock

**Oeceoclades maculata* (Lindl.) Lindl., Monk Orchid—28450; edge of tropical hardwood hammock

Polystachya concreta (Jacq.) Garay & H.R. Sweet, Greater Yellowspike Orchid—29049; tropical hardwood hammock

POACEAE (33, 64; 36, 70)

Amphicarpum muhlenbergianum (Schult.) Hitchc., Blue Maiden-cane—29165; disturbed land

Andropogon glomeratus (Walter) Britton et al., Bushy Bluestem—29069; edge of scrubland

Andropogon ternarius Michx., Splitbeard Bluestem—29070; edge of scrubland

- Andropogon virginicus* L., Broomsedge Bluestem—28980; herbaceous zone of coastal strand vegetation
- Andropogon virginicus* var. *glaucus* Hack., Chalky Bluestem, Olga Lakela 31192; 22 Oct 1967 (USF)**
- Aristida condensata* Chapm., Big Threeawn—28933; edge of scrubland
- Aristida patula* Chapm. ex Nash, Tall Threeawn—28410; highly insolated, disturbed land
- Aristida purpurascens* Poir. var. *purpurascens*, Arrowfeather Threeawn—28889; Scrubland
- Axonopus fissifolius* (Raddi) Kuhlm., Common Carpetgrass, Olga Lakela 31373; 7 Apr 1968 (USF)**
- **Bothriochloa pertusa* (L.) A. Camus, Pitted Beardgrass—28552; highly insolated, disturbed land
- Cenchrus echinatus* L., Southern Sandbur—28753; boundary between mangrove habitat and parking lot
- Cenchrus myosuroides* Kunth, Big Sandbur, Joseph H. Simpson 281, 1891 (US)**
- Cenchrus spinifex* Cav. [*Cenchrus incertus* M.A. Curtis], Coastal Sandbur—29042; herbaceous zone of coastal strand vegetation
- Chrysopogon pauciflorus* (Chapm.) Benth. ex Vasey, Florida False Beardgrass—29043; disturbed land bordering coastal strand vegetation and mangrove habitat
- **Cynodon dactylon* (L.) Pers., Bermudagrass—28447; disturbed, overgrown portion of beach
- **Dactyloctenium aegyptium* (L.) Willd. ex Asch. & Schweinf., Durban Crowfootgrass—28657; disturbed, overgrown portion of beach
- Dichantherium aciculare* (Desv. ex Poir.) Gould & C.A. Clark, Needleleaf Witchgrass—28934; scrubland
- Dichantherium commutatum* (Schult.) Gould, Variable Witchgrass—28890; edge of tropical hardwood hammock
- **Digitaria bicornis* (Lam.) Roem. & Schult., Asia Crabgrass—28658; disturbed, overgrown portion of beach
- Digitaria ciliaris* (Retz.) Koeler var. *ciliaris*, Southern Crabgrass—28283; highly insolated cleared land
- Digitaria filiformis* (L.) Koeler var. *villosa* (Walter) Fernald, Slender Crabgrass—28554; highly insolated ruderal land
- **Digitaria longiflora* (Retz.) Pers., Indian Crabgrass—28556; highly insolated, cleared land
- Distichlis spicata* (L.) Greene, Saltgrass—28981; edge of mangrove habitat
- Echinochloa walteri* (Pursh) A. Heller, Coast Cockspur—28507; highly insolated, cleared land
- **Eleusine indica* (L.) Gaertn., Indian Goosegrass—28659; disturbed, overgrown portion of beach
- **Eragrostis amabilis* (L.) Wight & Arn. ex Hook. & Arn., Feather Lovegrass—28714; crack in pavement of road
- **Eragrostis atrovirens* (Desf.) Trin. ex Steud., Thalia Lovegrass—27658; disturbed land
- **Eragrostis ciliaris* (L.) R. Br., Gophertail Lovegrass—28284; ruderal land
- Eragrostis elliottii* S. Watson, Elliott's Lovegrass—29075; herbaceous zone of coastal strand vegetation
- Eragrostis secundiflora* J. Presl, Red Lovegrass—28892; field
- **Eremochloa ophiuroides* (Munro) Hack., Centipede-grass—28894; ruderal land
- Eustachys petraea* (Sw.) Desv., Pinewoods Fingergrass—28553; tree lawn
- Gymnopogon chapmanianus* Hitchc., Chapman's Skel-etongrass, Olga Lakela 27527, 1967 (FLAS, USF)**
- **Hemarthria altissima* (Poir.) Stapf & C.E. Hubb., Limpograss—28717; highly insolated tree lawn; FLEPPC II
- Heteropogon contortus* (L.) P. Beauv. ex Roem. & Schult., Tanglehead—28509; field
- Leptochloa fusca* subsp. *fascicularis* (Lam.) N. Snow, Bearded Sprangletop—28718; highly insolated ruderal land
- Muhlenbergia capillaris* var. *filipes* (M.A. Curtis) Chapm. ex Beal, Gulf Hairawn Muhly—29076; herbaceous zone of coastal strand vegetation
- Oplismenus hirtellus* (L.) P. Beauv., Woodsgrass—28754; coastal tropical hardwood hammock
- Panicum amarum* Elliott, Bitter Panicgrass—28852; herbaceous zone of coastal strand vegetation
- **Panicum maximum* Jacq., Guineagrass—29100; highly insolated, disturbed land; FLEPPC II
- **Panicum repens* L., Torpedograss—28510; tree lawn; FLEPPC I
- Panicum virgatum* L., Switchgrass—29166; shaded, disturbed land
- **Paspalum nicorae* Parodi, Brunswickgrass—28897; field
- **Paspalum notatum* Flüggé var. *notatum*, Bahiagrass—28628; overgrown tree lawn
- **Paspalum notatum* var. *saurae* Parodi, Bahiagrass—28491; edge of scrubland
- Paspalum setaceum* var. *ciliatifolium* (Michx.) Vasey, Fringeleaf Paspalum; nonstereotypical material—28268; scrubland
- Paspalum setaceum* var. *longipedunculatum* (Leconte) A.W. Wood, Barestem Paspalum, Olga Lakela 31083, 8 Sep 1967 (USF)**
- Paspalum setaceum* var. *rigidifolium* (Nash) D.J. Banks, Stiff Paspalum—29016; scrubland
- Paspalum setaceum* var. *stramineum* (Nash) D.J. Banks, Yellow Sand Paspalum; 29017; scrubland
- Paspalum setaceum* var. *villosissimum* (Nash) D.J. Banks, Hairy Paspalum; 28721; scrubland
- **Paspalum urvillei* Steud., Vaseygrass; 28987; highly insolated lawn
- Paspalum vaginatum* Sw., Seashore Paspalum; 28723; herbaceous zone of coastal strand vegetation
- **Pennisetum purpureum* Schumach., Elephantgrass, Olga Lakela 29244, 6 Oct 1965 (USF)**
- Phragmites australis* (Cav.) Trin. ex Steud., Common Reed—29018; ruderal land
- **Rhynchelytrum repens* (Willd.) C.E. Hubb., Rose Natalgrass—28319; scrubland; FLEPPC I
- Setaria corrugata* (Elliott) Schult., Coastal Bristlegrass—29077; edge of scrubland
- Setaria macrosperma* (Scribn. & Merr.) K. Schum., Coral Bristlegrass—28936; disturbed land
- Setaria parviflora* (Poir.) Kerguelén, Yellow Bristlegrass—29102; highly insolated, disturbed land
- Sorghastrum secundum* (Elliott) Nash, Lopsided Indiangrass—29078; edge of scrubland

- Spartina patens* (Aiton) Muhl., Marshhay Cordgrass—29199; herbaceous zone of coastal strand vegetation
- **Sporobolus diandrus* (Retz.) P. Beauv., Dropseed (possibly, *S. jacquemontii*)—28511; highly insolated cleared land
- Sporobolus domingensis* (Trin.) Kunth, Coral Dropseed—28988; herbaceous zone of coastal strand vegetation
- Sporobolus virginicus* (L.) Kunth, Seashore Dropseed—28416; herbaceous zone of coastal strand vegetation
- Stenotaphrum secundatum* (Walter) Kuntze, St. Augustine-grass—29019; insolated ruderal land
- Triplasis americana* P. Beauv., Perennial Sandgrass—28937; scrubland
- Triplasis purpurea* (Walter) Chapm., Purple Sandgrass—28989; herbaceous zone of coastal strand vegetation
- Uniola paniculata* L., Seoats—28559; herbaceous zone of coastal strand vegetation
- Urochloa adspersa* (Trin.) R.D. Webster, Dominican Signalgrass—29022; periphery of Oak-Sabal hammock
- **Urochloa fusca* (Sw.) B.F. Hansen & Wunderlin, Browntop Signalgrass—28804; field
- **Urochloa subquadripara* (Trin.) R.D. Webster, Armgrass Millet—28853; edge of coastal tropical hardwood hammock

RUSCACEAE (1, 1)

- **Sansevieria hyacinthoides* (L.) Druce, Bowstring Hemp—28995; disturbed land; FLEPPC II

SMILACACEAE (1, 2)

- Smilax auriculata* Walter, Earleaf Greenbrier—28287; scrubland
- Smilax bona-nox* L., Saw Greenbrier—28822; edge of coastal tropical hardwood hammock

TYPHACEAE (1, 1)

- Typha domingensis* Pers., Southern Cattail—29320; edge of large pond at Mackle Park

XYRIDACEAE (1, 1)

- Xyris brevifolia* Michx., Shortleaf Yelloweyed Grass, Olga Lakela 31371, 7 Apr 1968 (FTG)**

DICOTYLEDONS (243, 316; 260, 343)**ACANTHACEAE (2, 2)**

- **Blechnum pyramidatum* (Lam.) Urb., Browne's Blechnum—28451; lawn; FLEPPC II
- **Ruellia brittoniana* Leonard, Mexican Bluebell—28782; disturbed land; FLEPPC I

ACERACEAE (1, 1)

- Acer rubrum* L., Red Maple—28516; pine flatwoods

AIZOACEAE (1, 1)

- Sesuvium portulacastrum* (L.) L., Shoreline Seapurslane—28074; mangrove habitat

AMARANTHACEAE (5, 8)

- Alternanthera flavescens* Kunth, Yellow Joyweed—27661; periphery of shell mound
- Amaranthus australis* (A. Gray) J.D. Sauer, Southern Amaranth—28598; dried-up water retention pond
- **Amaranthus blitum* L., Purple Amaranth—28904; cultivated land

- **Amaranthus hybridus* L., Slim Amaranth—28517; highly insolated, cleared land
- **Amaranthus viridis* L., Slender Amaranth—28566; highly insolated, ruderal land
- Blutaparion vermiculare* (L.) Mears, Samphire—28461; disturbed, overgrown portion of beach
- Froelichia floridana* (Nutt.) Moq., Cottonweed—28518; scrubland
- Iresine diffusa* Humb. & Bonpl. ex Willd., Juba's Bush—28520; herbaceous zone of coastal strand vegetation

ANACARDIACEAE (4, 4)

- **Mangifera indica* L., Mango—27878; coastal tropical hardwood hammock
- Rhus copallinum* L., Winged Sumac—28785; scrubland
- **Schinus terebinthifolius* Raddi, Brazilian Pepper—28567; edge of coastal tropical hardwood hammock; FLEPPC I
- Toxicodendron radicans* (L.) Kuntze, Eastern Poison Ivy—27879; coastal tropical hardwood hammock

ANNONACEAE (1, 1)

- ♠*Asimina reticulata* Shuttlew. ex Chapm., Netted Pawpaw—29517; road-facing edge of scrubland

APIACEAE (1, 1)

- Ptilimnium capillaceum* (Michx.) Raf., Mock Bishop-sweed—29111; in ditch situated within highly insolated ruderal land

APOCYNACEAE (3, 3)

- **Catharanthus roseus* (L.) G. Don, Madagascar Periwinkle—both white-flowered forma and pink-flowered forma—29140; disturbed land
- Pentalinon luteum* (L.) B.F. Hansen & Wunderlin, Wild Allamanda—28692; coastal strand vegetation
- Rhabdadenia biflora* (Jacq.) Mull. Arg., Rubbervine—27880; mangrove habitat

AQUIFOLIACEAE (1, 1)

- Ilex glabra* (L.) A. Gray, Inkberry, Olga Lakela 30795 with F. Almeda, 20 Apr 1967 (USF)**

ARALIACEAE (3, 3)

- Centella asiatica* (L.) Urb., Spadeleaf—28452; overgrown tree lawn
- Hydrocotyle umbellata* L., Manyflower Marshpennywort—28786; highly insolated, overgrown tree lawn
- **Schefflera actinophylla* (Endl.) Harms, Australian Umbrella Tree—28860; coastal tropical hardwood hammock; FLEPPC I

ASCLEPIADACEAE (4, 4; 4, 5)

- **Asclepias curassavica* L., Scarlet Milkweed—28422; disturbed land
- Asclepias tomentosa* Elliott, Velvetleaf Milkweed; Harold N. Moldenke 5904, 1930 (NY)**
- **Cryptostegia madagascariensis* Bojer ex Decne., Madagascar Rubbervine—29202; amidst mangrove vegetation situated at roadside; FLEPPC II
- Cynanchum angustifolium* Pers., Gulf Coast Swallowwort—28521; herbaceous zone of coastal strand vegetation

Sarcostemma clausum (Jacq.) Roem. & Schult., White Twinevine—28453; highly insolated, cleared land

ASTERACEAE (35, 42; 36, 44)

Ageratina jucunda (Greene) Clewell & Wooten, Hammock Snakeroot—29113; scrubland

Ambrosia artemisiifolia L., Common Ragweed—28454; disturbed, overgrown portion of beach

Baccharis angustifolia Michx., Saltwater Falsewillow—28905; boundary between mangrove habitat and ruderal land

Baccharis glomeruliflora Pers., Silverling—29050; pine flatwoods

Baccharis halimifolia L., Groundsel Tree—29203; woody-plant zone of coastal strand vegetation

Bidens alba (L.) DC., Beggerticks—28522; tree lawn

Borrchia frutescens (L.) DC., Bushy Seaside Oxeye—29204; edge of mangrove habitat

**Calyptocarpus vialis* Less., Straggler Daisy—28906; lawn

Chrysopsis scabrella Torr. & A. Gray, Coastalplain Goldenaster—29115; scrubland

Cirsium nuttallii DC., Nuttall's Thistle—29116; highly insolated lawn

Conyza canadensis (L.) Cronquist, Canadian Horseweed—29141; ruderal land

α*Coreopsis leavenworthii* Torr. & A. Gray, Leavenworth's Tickseed—28523; highly insolated, cleared land

**Cyanthillium cinereum* (L.) H. Rob., Little Ironweed—28862; field

Eclipta prostrata (L.) L., False Daisy—29117; in ditch situated within highly insolated ruderal land

**Emilia fosbergii* Nicolson, Florida Tasselflower—28455; developed land

**Emilia sonchifolia* (L.) DC., Lilac Tasselflower—28569; tree lawn

***Erechtites hieraciifolius* (L.) Raf. ex DC., Fireweed, Olga Lakela 29441, 10 Jan 1966 (USF)**

Erigeron quercifolius Poir., Oakleaf Fleabane—28456; overgrown tree lawn

Eupatorium capillifolium (Lam.) Small ex Porter & Britton, Dogfennel—28865; disturbed land

Eupatorium serotinum Michx., Lateflowering Thoroughwort—28423; adjacent to boardwalk through mangrove habitat

Flaveria linearis Lag., Narrowleaf Yellowtops—28570; woody-plant zone of coastal strand vegetation

Gaillardia pulchella Foug., Firewheel—29205; herbaceous zone of coastal strand vegetation

Gamochaeta pensylvanica (Willd.) Cabrera, Pennsylvania Everlasting—29518; yard

Helianthus debilis Nutt. subsp. *debilis*, East Coast Dune Sunflower—28424; scrubland

Heterotheca subaxillaris (Lam.) Britton & Rusby, Camphorweed—28272; scrubland

Iva imbricata Walter, Seacoast Marshelder—28695; herbaceous zone of coastal strand vegetation

Liatris tenuifolia Nutt., Shortleaf Gayfeather—29162; edge of scrubland

Melanthera nivea (L.) Small, Snow Squarestem—28667; edge of overgrown lawn

Mikania scandens (L.) Willd., Climbing Hempvine—28323; disturbed land

α*Palafoxia feayi* A. Gray, Feay's Palafox—28973; scrubland

Pectis prostrata Cav., Spreading Cinchweed—28788; tree lawn

Pityopsis graminifolia (Michx.) Nutt., Narrowleaf Silkgrass—28696; highly insolated land

Pluchea carolinensis (Jacq.) G. Don, Cure-For-All—29143; oak-*Sabal* hammock

Pluchea odorata (L.) Cass., Sweetscent—29118; highly insolated lawn

Pluchea rosea R.K. Godfrey, Rosy Camphorweed—28951; shore of Marco Lake

Solidago odora Aiton, Goldenrod—28697; scrubland

Solidago sempervirens L., Seaside Goldenrod—28530; cleared land

***Solidago tortifolia* Elliott, Twistedleaf Goldenrod, Alvan W. Chapman sn, middle to late 1800s (US)**

**Sonchus oleraceus* L., Common Sowthistle—28599; shell mound

**Sphagneticola trilobata* (L.) Pruski [*Wedelia trilobata* [L.] Hitchc.], Creeping Oxeye—29119; highly insolated lawn; FLEPPC II

Symphotrichum subulatum (Michx.) G.L. Nesom, Annual Saltmarsh Aster—29114; in ditch situated within highly insolated ruderal land

**Tridax procumbens* L., Coatbuttons—28457; highly insolated, ruderal land

Verbesina virginica L., White Crownbeard—28525; boundary between mangrove habitat and highly insolated cleared land

**Youngia japonica* (L.) DC., Oriental False Hawksbeard—28600; lawn

AVICENNIACEAE (1, 1)

Avicennia germinans (L.) L., Black Mangrove—28630; disturbed, overgrown portion of beach

BASELLACEAE (1, 1)

**Anredera vesicaria* (Lam.) Gaertn. f., Texas Madeiravine—29224; climbing on clump of vegetation within field

BATACEAE (1, 1)

Batis maritima L., Saltwort—28438; periphery of mangrove habitat

BIGNONIACEAE (2, 3)

**Pyrostegia venusta* (Ker Gawl.) Miers, Flamevine—29232; disturbed scrubland

**Tecoma capensis* (Thunb.) Lindl., Cape Honeysuckle—28458; coastal tropical hardwood hammock

**Tecoma stans* (L.) Juss. ex Kunth, Yellow Elder—27669; Indian Hill (a dune)

BORAGINACEAE (2, 4)

Heliotropium angiospermum Murray, Scorpionstail—29144; oak-*Sabal* hammock

Heliotropium curassavicum L., Seaside Heliotrope—28823; boundary between mangrove habitat and parking lot

Heliotropium polyphyllum Lehm., Pineland Heliotrope—28526; scrubland

Tournefortia volubilis L., Twining Soldierbush—28825; edge of coastal tropical hardwood hammock

BRASSICACEAE (1, 1)

Lepidium virginicum L., Virginia Pepperweed—28572; tree lawn

BURSERACEAE (1, 1)

Bursera simaruba (L.) Sarg., Gumbo-Limbo—27691; coastal tropical hardwood hammock

CACTACEAE (2, 3; 2, 4)

Acanthocereus tetragonus (L.) Hummelinck, Barbed-Wire Cactus—29218; disturbed land

**Opuntia cochenillifera* (L.) Mill., Cochineal Cactus—29223; disturbed land

Opuntia humifusa (Raf.) Raf., Pricklypear—28291; scrubland

***Opuntia stricta* (Haw.) Haw., Erect Pricklypear, Olga Lakela 28540, 1 May 1965 (USF)**

CAPPARACEAE (2, 3)

Capparis cynophallophora L., Jamaican Capertree—29145; periphery of coastal tropical hardwood hammock

Capparis flexuosa (L.) L., Bayleaf Capertree—28864; coastal tropical hardwood hammock

Polanisia tenuifolia Torr. & A. Gray, Slenderleaf Clammy-weed—28601; scrubland

CARICACEAE (1, 1)

**Carica papaya* L., Papaya—27965; coastal tropical hardwood hammock

CARYOPHYLLACEAE (2, 2)

Paronychia americana (Nutt.) Frenzl ex Walp., American Nailwort—28602; scrubland

♠*Stipulicida setacea* var. *lacerata* C.W. James, Pineland Scaly-pink—28952; scrubland

CASUARINACEAE (1, 1)

**Casuarina equisetifolia* L., Australian-Pine—28528; disturbed land; FLEPPC I

CELASTRACEAE (1, 1)

Hippocratea volubilis L., Medicine Vine—27884; coastal tropical hardwood hammock

CELTIDACEAE (1, 1; 2, 2)

***Celtis laevigata* Willd., Hackberry, Olga Lakela 28519A; 1 May 1965 (USF)**

Trema micranthum (L.) Blume, Nettle Tree—28548; disturbed land

CHENOPODIACEAE (4, 5)

Atriplex cristata Humb. & Bonpl. ex Willd., Crested Saltbush—28622; herbaceous zone of coastal strand vegetation

**Chenopodium ambrosioides* L., Mexican Tea—28292; highly insolated, cleared land

Chenopodium berlandieri Moq., Pitseed Goosefoot—28531; highly insolated, cleared land

Sarcocornia perennis (Mill.) A.J. Scott, Perennial Glass-

wort—28796; along boardwalk through mangrove habitat

Suaeda linearis (Elliott) Moq., Sea Blite—28462; disturbed, overgrown portion of beach

CHRYSOBALANACEAE (2, 2)

Chrysobalanus icaco L. (including the forma with purple fruits and the forma with white fruits), Coco Plum—27671; coastal tropical hardwood hammock

Licania michauxii Prance, Gopher Apple—28273; scrubland

CISTACEAE (2, 2; 2, 5)

♠*Helianthemum nashii* Britton, Florida Scrub Frostweed—28797; highly insolated sand

♠***Lechea cernua* Small, Nodding Pinweed; Olga Lakela 31974, 30 Dec 1969 (USF)**

♠***Lechea divaricata* Shuttlew. ex Britton, Drysand Pinweed, Don Richardson sn, 6 May 1987 (USF)**

♠***Lechea lakelae* Wilbur, Lakela's Pinweed, Olga Lakela 30953, 7 Aug 1967 (USF)**

Lechea sessiliflora Raf., Pineland Pinweed—27586; scrubland

COMBRETACEAE (3, 4)

Bucida buceras L., Black Olive—28632; boundary between mangrove habitat and ruderal land

Conocarpus erectus L., Buttonwood—29002; mangrove habitat

Conocarpus erectus var. *sericeus* DC., Silver Buttonwood—28799; edge of mangrove habitat

Laguncularia racemosa (L.) C.F. Gaertn., White Mangrove—28832; mangrove habitat

CONVOLVULACEAE (1, 7; 2, 8)

Ipomoea alba L., Moonflowers—28833; edge of coastal tropical hardwood hammock

Ipomoea indica (Burm.) Merr., Oceanblue Morning-Glory—28463; disturbed, overgrown portion of beach

Ipomoea pes-caprae (L.) R. Br., Railroad Vine—28603; herbaceous zone of coastal strand vegetation

**Ipomoea quamoclit* L., Cypressvine—28867; boundary between forest and ruderal land

Ipomoea sagittata Poir., Saltmarsh Morning-Glory—28953; by shore of Marco Lake

**Ipomoea triloba* L., Littlebell—29120; highly insolated lawn

Ipomoea violacea L., Heavenlyblue Morning-Glory—28870; edge of mangrove habitat

♠***Stylisma abdita* Myint, Showy Dawnflower, Jim Burch 213, 1990; Collier County Natural Resources Division Herbarium**

CRASSULACEAE (1, 3)

**Kalanchoe daigremontiana* Raym.-Hamer & H. Perrier, Devil's Backbone—29628; disturbed land

**Kalanchoe delagoensis* Eckl. & Zeyh., Chandelier Plant—29427; disturbed land

**Kalanchoe pinnata* (Lam.) Pers., Cathedral Bells—29522; boundary between disturbed scrubland and ruderal land; FLEPPC II

CUCURBITACEAE (2, 2; 3, 3)

****Cucumis melo* L., Cantaloupe, Olga Lakela 28539, 1 May, 1965 (USF)**

Melothria pendula L., Creeping Cucumber—28425; by boardwalk through mangrove habitat

**Momordica charantia* L., Balsampear—28743; coastal tropical hardwood hammock

EMPETRACEAE (1, 1)

***Ceratiola ericoides* Michx., Florida Rosemary, Olga Lakela 27526; 27 Sep 1964 (USF)**

ERICACEAE (2, 2)

Lyonia fruticosa (Michx.) G.S. Torr., Coastalplain Staggerbush—28077; scrubland

Vaccinium myrsinites Lam., Shiny Blueberry—28954; scrubland

EUPHORBIACEAE (9, 22)

**Acalypha arvensis* Poepp., Threeseed Mercury—29221; disturbed land

**Bischofia javanica* Blume, Javanese Bishopwood—28604; by mangrove habitat; FLEPPC I

Chamaesyce blodgettii (Engelm. ex Hitchc.) Small, Limestone Sandmat—28274; scrubland

Chamaesyce bombensis (Jacq.) Dugand, Dixie Sandmat—28605; herbaceous zone of coastal strand vegetation

▫*Chamaesyce cumulicola* Small, Coastal Dune Sandmat—28192; disturbed land

Chamaesyce hirta (L.) Millsp., Pillpod Sandmat—28669; ruderal land

Chamaesyce hypericifolia (L.) Millsp., Graceful Sandmat—29122; highly insolated lawn

Chamaesyce hyssopifolia (L.) Small, Hyssopleaf Sandmat—28670; lawn

**Chamaesyce lasiocarpa* (Klotzsch) Arthur, Roadside Sandmat—29123; in ditch situated within highly insolated ruderal land

Chamaesyce maculata (L.) Small, Spotted Sandmat—28606; highly insolated gravel

Chamaesyce mesembrianthemifolia (Jacq.) Dugand, Coastal Beach Sandmat—28426; herbaceous zone of coastal strand vegetation

Chamaesyce ophthalmica (Pers.) D.G. Burch, Florida Hammock Sandmat—28532; ruderal land

Chamaesyce prostrata (Aiton) Small, prostrate Sandmat—28699; tree lawn

Cnidoscolus stimulosus (Michx.) Engelm. & A. Gray, Tread Softly—28910; field

▫*Croton glandulosus* var. *floridanus* (A.M. Ferguson) R.W. Long, Vente Conmigo—28758; herbaceous zone of coastal strand vegetation

Croton glandulosus var. *glandulosus* L., Vente Conmigo—28294; highly insolated, disturbed land

**Euphorbia graminea* Jacq., Grassleaf Spurge—28607; highly insolated gravel

**Phyllanthus amarus* Schumach. & Thonn., Gale-Of-Wind—28579; disturbed land

**Phyllanthus tenellus* Roxb., Mascarene Island Leafflower—28608; lawn

Poinsettia cyathophora (Murray) Bartl., Paintedleaf—28275; scrubland

Poinsettia heterophylla (L.) Klotzsch & Garcke ex Klotzsch, Fiddler's Spurge—28580; disturbed land

**Ricinus communis* L., Castorbean—28834; cleared land; FLEPPC II

FABACEAE (30, 43; 33, 48)

**Abrus precatorius* L., Rosary Pea—29053; disturbed land; FLEPPC I

**Acacia auriculiformis* A. Cunn. ex Benth., Earleaf Acacia—28295; scrubland; FLEPPC I

Aeschynomene americana L., Shyleaf—28764; highly insolated, overgrown tree lawn

Aeschynomene viscidula Michx., Sticky Jointvetch—28957; lawn

**Alysicarpus ovalifolius* (Schumach. & Thonn.) J. Leonard, False Moneywort—29092; insolated, cleared land

***Amorpha herbacea* Walter var. *herbacea*, Clusterspike False Indigobush; John K. Small 10487, 1922 (NY)**

Caesalpinia bonduc (L.) Roxb., Gray Nicker—29006; herbaceous zone of coastal strand vegetation

Canavalia rosea (Sw.) DC., Baybean—29054; herbaceous zone of coastal strand vegetation

Centrosema virginianum (L.) Benth., Spurred Butterfly Pea—28328; disturbed land

Chamaecrista fasciculata (Michx.) Greene, Partridge Pea—27693; disturbed land

Chamaecrista nictitans var. *aspera* (Muhl. ex Elliott) H.S. Irwin & Barneby, Sensitive Pea—28533; cleared land

Clitoria mariana L., Atlantic Pigeonwings—28866; edge of scrubland

**Crotalaria incana* L., Shakeshake—27561; disturbed land

**Crotalaria pallida* Aiton, Smooth Rattlebox—28908; disturbed land

****Crotalaria retusa* L., Rattleweed, Olga Lakela 28007 with R.W. Long, F.C. Craighead; 5 Dec 1964 (USF)**

Crotalaria rotundifolia J.F. Gmel., Rabbitbells—28276; scrubland

Dalbergia ecastaphyllum (L.) Taub., Coinvine—28581; edge of natural vegetation

****Delonix regia* (Bojer ex Hook.) Raf., Royal Poinciana, Olga Lakela 28682, 29 May, 1965 (USF)**

Desmanthus virgatus (L.) Willd., Wild Tantan—28700; boundary between mangrove habitat and field

**Desmodium incanum* DC., Zarzabacoa Comun—28277; disturbed land

**Desmodium tortuosum* (Sw.) DC, Dixie Ticktrefoil—28466; disturbed, overgrown portion of beach

**Desmodium triflorum* (L.) DC., Threeflower Ticktrefoil—28836; highly insolated sand

Erythrina herbacea L., Coralbean—27672; coastal tropical hardwood hammock

Galactia elliottii Nutt., Elliott's Milkpea—28909; upland vegetation

Galactia regularis (L.) Britton et al., Eastern Milkpea—28837; scrubland

Galactia striata (Jacq.) Urb., Florida Hammock Milkpea—28872; coastal tropical hardwood hammock

Galactia volubilis (L.) Britton, Downy Milkpea—28873; edge of scrubland

**Indigofera hirsuta* L., Hairy Indigo—28296; highly insolated cleared land

- **Indigofera spicata* Forssk., Trailing Indigo—28467; lawn
 **Indigofera tinctoria* L., True Indigo—27632; scrubland
***Indigofera trita* L. f. [*Indigofera mucronata* Spreng. ex DC.], Florida Keys Indigo, Alvan W. Chapman s.n., 1800s (NY)**
 **Leucaena leucocephala* (Lam.) de Wit, White Leadtree—29124; highly insolated, disturbed land; FLEPPC II
Lupinus diffusus Nutt., Skyblue Lupine—28078; disturbed land
 **Macroptilium lathyroides* (L.) Urb., Wild Bushbean—28838; highly insolated tree lawn
 **Melilotus albus* Medik., White Sweetclover—28536; highly insolated cleared land
Neptunia pubescens Benth., Tropical Puff—28537; highly insolated lawn
Piscidia piscipula (L.) Sarg., Florida Fishpoison Tree—28593; forest
Pithecellobium unguis-cati (L.) Benth., Catclaw—27882; boundary between coastal tropical hardwood hammock and mangrove habitat
 **Rhynchosia cinerea* Nash, Brownhair Snoutbean—27587; insolated, disturbed land
Rhynchosia minima (L.) DC., Least Snoutbean—28766; field
 **Senna obtusifolia* (L.) H.S. Irwin & Barneby, Coffee-weed—28959; insolated, disturbed land
Sesbania herbacea (Mill.) McVaugh, Danglepod—28703; highly insolated tree lawn
 **Sophora tomentosa* var. *occidentalis* (L.) Isely, Necklacepod—27589; scrubland
Sophora tomentosa var. *truncata* Torr. & A. Gray, Necklacepod—29009; landward portion of beach
 **Stylosanthes hamata* (L.) Taub., Cheesytoes—28439; tree lawn
****Tamarindus indica* L., Tamarind, Olga Lakela 27763, 23 Oct 1964 (USF)**
Vicia acutifolia Elliott, Fourleaf Vetch—29449; tree lawn
Vigna luteola (Jacq.) Benth., Hairypod Cowpea—28468; disturbed, overgrown portion of beach

FAGACEAE (1, 4)

- Quercus chapmanii* Sarg., Chapman's Oak—28297; scrubland
Quercus geminata Small, Sand Live Oak—27676; scrubland
Quercus myrtifolia Willd., Myrtle Oak—27677; scrubland
Quercus virginiana Mill., Live Oak—28081; edge of coastal tropical hardwood hammock

GENTIANACEAE (1, 1)

- Eustoma exaltatum* (L.) Salisb. ex G. Don, Marshgentian—29152; highly insolated, cleared land

GOODENIACEAE (1, 2)

- Scaevola plumieri* (L.) Vahl, Beachberry—28440; herbaceous zone of coastal strand vegetation
 **Scaevola taccada* var. *taccada* (Gaertn.) Roxb., Beach Naupaka—28610; woody-plant zone of coastal strand vegetation; FLEPPC I

HYPERICACEAE (1, 1)

- Hypericum tetrapetalum* Lam., Fourpetal St. John's-Wort, Olga Lakela 29521A, 16 Mar 1966 (USF)**

LAMIACEAE (3, 3)

- Callicarpa americana* L., American Beautyberry—28339; scrubland
 **Hyptis pectinata* (L.) Poit., Comb Bushmint—29057; edge of lawn
Trichostema dichotomum L., Forked Bluecurls—28611; woody-plant zone of coastal strand vegetation

LAURACEAE (2, 2)

- Cassytha filiformis* L., Love Vine—28298; scrubland
Persea borbonia (L.) Spreng., Bay—27636; scrubland

LENTIBULARIACEAE (1, 1)

- Utricularia subulata* L., Zigzag Bladderwort, Olga Lakela 30952, 7 Aug 1967 (USF)**

LOASACEAE (1, 1)

- Mentzelia floridana* Nutt. ex Torr. & A. Gray, Poorman's Patch—28840; field

LOGANIACEAE (1, 1)

- Mitreola petiolata* (J.F. Gmel.) Torr. & A. Gray, Lax Hornpod—29012; herbaceous zone of coastal strand vegetation

LYTHRACEAE (2, 2)

- Ammannia latifolia* L., Pink Redstem—29125; in ditch situated within highly insolated ruderal land
Lythrum alatum Pursh, Winged Loosestrife—28538; highly insolated, cleared land

MALVACEAE (6, 8; 7, 9)

- Herissantia crispa* (L.) Brizicky, Bladdermallow—27593; Indian Hill (a disturbed dune)
***Kosteletzkya pentacarpos* (L.) Ledeb. [*Kosteletzkya virginica* (L.) C. Presl ex A. Gray], Virginia Saltmarsh Mallow, Olga Lakela 30793 with F. Almeda, 20 Apr 1967 (USF)**

- Malvastrum corchorifolium* (Desr.) Britton ex Small, False Mallow—29153; disturbed land (grassy area)
Sida acuta Burm. f., Common Wireweed—28301; insolated disturbed land
 **Sida cordifolia* L., Lima—29058; edge of lawn
Sida rhombifolia L., Cuban Jute—28707; field
 **Talipariti tiliaceum* var. *tiliaceum* (L.) Fryxell, Mahoe—28930; natural land; FLEPPC II
 **Thespesia populnea* (L.) Sol. ex Correa, Portia Tree—28627; disturbed, overgrown portion of beach; FLEPPC I
 **Urena lobata* L., Caesarweed—28539; periphery of pine flatwoods; FLEPPC II

MELIACEAE (1, 1)

- **Melia azedarach* L., Chinaberrytree—27892; edge of coastal tropical hardwood hammock; FLEPPC II

MOLLUGINACEAE (1, 1)

- **Mollugo verticillata* L., Indian Chickweed—28769; highly insolated, cleared land

MORACEAE (1, 2; 1, 3)

- Ficus aurea* Nutt., Strangler Fig—29209; coastal tropical hardwood hammock
***Ficus elastica* Roxb., Rubber-Plant, H.R. Loconte 954 with J.B. Walker, 12 Mar 1994 (NY)**

**Ficus microcarpa* L. f., Indian Laurel—29059; disturbed land; FLEPPC I

MUNTINGIACEAE (1, 1)

**Muntingia calabura* L., Strawberrytree—29138; oak-*Sabal* hammock

MYRICACEAE (1, 1)

Myrica cerifera L., Southern Bayberry—28278; natural land

MYRSINACEAE (2, 2)

Ardisia escallonioides Schiede & Deppe ex Schlttdl. & Cham., Marlberry—27546; coastal tropical hardwood hammock

Rapanea punctata (Lam.) Lundell, Myrsine—27699; coastal tropical hardwood hammock

MYRTACEAE (6, 8)

Eugenia axillaris (Sw.) Willd., White Stopper—27727; coastal tropical hardwood hammock

Eugenia foetida Pers., Spanish Stopper—28915; edge of coastal tropical hardwood hammock

**Eugenia uniflora* L., Surinam Cherry—28471; coastal tropical hardwood hammock; FLEPPC I

**Melaleuca quinquenervia* (Cav.) S.T. Blake, Punktree—29096; cleared land by Marco Lake; FLEPPC I

Myrcianthes fragrans (Sw.) McVaugh, Twinberry—28135; coastal tropical hardwood hammock

**Psidium guajava* L., Guava—27894; coastal tropical hardwood hammock; FLEPPC I

**Rhodomyrtus tomentosa* (Aiton) Hassk., Rose Myrtle—28540; pine flatwoods; FLEPPC I

**Syzygium cumini* (L.) Skeels, Java Plum—29157; disturbed land; FLEPPC I

NYCTAGINACEAE (2, 2)

Boerhavia diffusa L., Red Spiderling—28472; field

Pisonia aculeata L., Devil's Claws—28920; coastal tropical hardwood hammock

OLACACEAE (2, 2)

Schoepfia chrysophylloides (A. Rich.) Planch., Graytwig—27728; coastal tropical hardwood hammock

Ximenia americana L., Tallow Wood—27683; scrubland

OLEACEAE (1, 1)

Forestiera segregata (Jacq.) Krug & Urb., Florida Swamp-privet—27684; disturbed land

ONAGRACEAE (3, 5)

Gaura angustifolia Michx., Southern Beeblossom—28473; disturbed, overgrown portion of beach

Ludwigia octovalvis (Jacq.) Raven, Mexican Primrosewillow—28474; highly insolated, cleared land

**Ludwigia peruviana* (L.) H. Hara, Peruvian Primrosewillow—28963; by shore of Marco Lake; FLEPPC I

Oenothera humifusa Nutt., Seabeach Eveningprimrose—28430; herbaceous zone of coastal strand vegetation

Oenothera laciniata Hill, Cutleaf Eveningprimrose—28844; highly insolated sand

OROBANCHACEAE (2, 2)

Buchnera americana L., American Bluehearts (blue-flowered

forma)—29132; in ditch situated within highly insolated ruderal land

Seymeria pectinata Pursh, Piedmont Blacksennea—28480; scrubland

OXALIDACEAE (1, 1)

Oxalis dillenii Jacq., Southern Yellow Woodsorrel—28585; tree lawn

PASSIFLORACEAE (1, 1)

Passiflora suberosa L., Corkystem Passionflower—28541; pine flatwoods

PETIVERIACEAE (3, 3)

Petiveria alliacea L., Guinea Hen Weed—28875; edge of tree island within field

Rivina humilis L., Rougeplant—27729; coastal tropical hardwood hammock

Trichostigma octandrum (L.) H. Walter, Hoopvine—28588; coastal tropical hardwood hammock

PHYTOLACCACEAE (1, 1)

Phytolacca americana L., American Pokeweed—28586; coastal tropical hardwood hammock

PLUMBAGINACEAE (2, 3)

Limonium carolinianum (Walter) Britton, Carolina Sealavender—29215; shaded edge of mangrove habitat

**Plumbago auriculata* Lam., Cape Leadwort—28678; edge of forest

Plumbago scandens L., Doctorbush—27730; edge of coastal tropical hardwood hammock

POLYGALACEAE (1, 1)

Polygala grandiflora Walter, Showy Milkwort—29061; woody plant zone of coastal strand vegetation

POLYGONACEAE (4, 4)

**Antigonon leptopus* Hook. & Arn., Coral Vine—28679; disturbed land; FLEPPC II

Coccoloba uvifera (L.) L., Seagrape—27900; coastal strand vegetation

▣*Polygonella polygama* var. *brachystachya* (Meisn.) Wunderlin, October Flower—28542; scrubland

Polygonum punctatum Elliott, Dotted Smartweed—29127; in ditch situated within highly insolated ruderal land

PORTULACACEAE (1, 2)

Portulaca oleracea L., Little Hogweed—28686; highly insolated, ruderal land

Portulaca pilosa L., Pink Purslane—28543; highly insolated, cleared land

PRIMULACEAE (1, 1)

Samolus ebracteatus Kunth, Water Pimpernel—28544; herbaceous zone of coastal strand vegetation

RHAMNACEAE (1, 1)

**Colubrina asiatica* (L.) Brongn., Asian Nakedwood—29013; edge of mangrove habitat; FLEPPC I

RHIZOPHORACEAE (1, 1)

Rhizophora mangle L., Red Mangrove—28635; by shore of East Marco Bay

ROSACEAE (1, 1)

Prunus caroliniana (Mill.) Aiton, Carolina Laurelcherry—28710; scrubland

RUBIACEAE (13, 17)

Chiococca alba (L.) Hitchc., Snowberry—28966; edge of coastal tropical hardwood hammock

Diodia teres Walter, Poor Joe—28922; edge of scrubland

Diodia virginiana L., Virginia Buttonweed—29128; in ditch situated within highly insolated ruderal land

Ernodea littoralis Sw., Beach Creeper—28442; woody-plant zone of coastal strand vegetation

Galium hispidulum Michx., Coastal Bedstraw—28967; scrubland

Hamelia patens Jacq., Firebush—28878; edge of coastal tropical hardwood hammock

Houstonia procumbens (J.F. Gmel.) Standl, Innocence—29228; junction of lawn and remnant of coastal tropical hardwood hammock

**Mitracarpus hirtus* (L.) DC., Tropical Girdlepod—28879; ruderal land

Morinda royoc L., Redgal—28924; edge of coastal tropical hardwood hammock

**Oldenlandia corymbosa* L., Flattop Mille Graines—28616; highly insolated gravel

Oldenlandia uniflora L., Clustered Mille Graines—28969; highly insolated, disturbed land

Psychotria nervosa Sw., Wild Coffee—27734; coastal tropical hardwood hammock

Randia aculeata L., White Indigoberry—27550; coastal tropical hardwood hammock

**Richardia brasiliensis* Gomes, Tropical Mexican Clover—28618; shaded area within yard

**Richardia grandiflora* (Cham. & Schltl.) Schult. & Schult. f., Largeflower Mexican Clover—28303; scrubland

Spermacoce assurgens Ruiz & Pav., Woodland False Buttonweed—28881; disturbed land

**Spermacoce verticillata* L., Shrubby False Buttonweed—29130; in ditch situated within highly insolated ruderal land

RUTACEAE (3, 3)

**Citrus x aurantium* L., grapefruit group—29219; natural land;

**Murraya paniculata* (L.) Jack, Orange Jessamine—28545; coastal tropical hardwood hammock; FLEPPC II

Zanthoxylum fagara (L.) Sarg., Wild Lime—28687; woody-plant zone of coastal strand vegetation

SALICACEAE (1, 1)

Salix caroliniana Michx., Carolina Willow—29160; edge of mangrove habitat

SAPINDACEAE (1, 1; 4, 4)

Cardiospermum microcarpum Kunth., Heartseed, Olga Lakela 29241; 6 Oct 1965 (USF)

**Cupaniopsis anacardioides* (A. Rich.) Radlk., Carrotwood—28475; coastal tropical hardwood hammock; FLEPPC I

Exothea paniculata (Juss.) Radlk. ex T. Durand, Inkwood, Olga Lakela 29507, 15 Mar 1966 (USF)

Sapindus saponaria L., Soapberry, Olga Lakela 28514, 1 May 1965 (USF)

SAPOTACEAE (2, 4)

Chrysophyllum oliviforme L., Satinleaf—27904; coastal tropical hardwood hammock

Sideroxylon celastrinum (Kunth) T.D. Penn., Saffron Plum—28546; oak-Sabal hammock

Sideroxylon foetidissimum Jacq., False Mastic—27555; coastal tropical hardwood hammock

Sideroxylon tenax L., Tough Bully—27736; coastal tropical hardwood hammock

SOLANACEAE (4, 5; 4, 6)

Capsicum annuum L., Bird Pepper—28713; scrubland

Lycium carolinianum Walter, Christmasberry—28443; periphery of mangrove habitat

Physalis angustifolia Nutt., Coastal Groundcherry—29098; periphery of scrubland

Solanum americanum Mill., American Black Nightshade—28433; adjacent to boardwalk through mangrove habitat

Solanum donianum Walp., Mullein Nightshade, Olga Lakela 29834, 22 May 1966 (USF)

**Solanum lycopersicum* L. (= *Lycopersicon esculentum* Mill.), Garden Tomato—29133; edge of food-concession building

STERCULIACEAE (1, 1; 2, 2)

Melochia spicata (L.) Fryxell, Bretonica Peluda, Olga Lakela 27744, 22 Oct 1964 (USF)

Waltheria indica L., Sleepy Morning—28476; highly insolated, cleared land

SURIANACEAE (1, 1)

Suriana maritima L., Bay Cedar—28444; woody plant zone of coastal strand vegetation

TETRACHONDRAEAE (1, 1)

Polypremum procumbens L., Rustweed—28459; lawn

TURNERACEAE (2, 2)

Piriqueta cistoides (L.) Griseb., Pitted Stripeseed—28547; herbaceous zone of coastal strand vegetation

**Turnera ulmifolia* L., Yellow Alder—28434; disturbed land

URTICACEAE (5, 5)

Boehmeria cylindrica (L.) Sw., False Nettle—28971; by shore of Marco lake

**Laportea aestuans* (L.) Chew, West Indian Woodnettle—29062; disturbed land bordering mangrove habitat

Parietaria floridana Nutt., Florida Pellitory—29135; in shade under building

Pilea microphylla (L.) Liebm., Artillery Plant—28435; by cultivated shrubs

**Pouzolzia zeylanica* (L.) Benn., Pouzolzia's Bush—28926; woodland

VERBENACEAE (3, 4)

**Lantana camara* L., Lantana—28340; scrubland; FLEPPC I

Lantana involucrata L., Buttonsage—28781; boundary between the herbaceous zone of, and the woody plant zone of coastal strand vegetation

Phyla nodiflora (L.) Greene, Turkey Tangle Fogfruit—28477; disturbed, overgrown portion of beach

**Stachytarpheta urticifolia* Sims, Nettleleaf Velvetberry—29161; insolated, ruderal land; FLEPPC II

VERONICACEAE (6, 6)

Bacopa monnieri (L.) Pennell, Herb-Of-Grace—29131; in ditch situated within highly insolated ruderal land

Capraria biflora L., Goatweed—29383; boundary between mangrove habitat and tree lawn

**Conobea multifida* (Michx.) Benth., Narrowleaf Paleseed—28882; bare, disturbed land situated by water

**Lindernia crustacea* (L.) F. Muell., Malaysian False Pimpernel—28925; shrub bed

**Russelia equisetiformis* Schlttdl. & Cham., Fountain-bush—27660; periphery of Indian Hill (a large dune)

Scoparia dulcis L., Sweetbroom—28712; field

VIOLACEAE (1, 1)

Viola primulifolia L., Primroseleaf Violet, Olga Lakela 29526, 1966 (USF)

VITACEAE (4, 5)

Ampelopsis arborea (L.) Koehne, Peppervine—28972; boundary between pine flatwoods and ruderal land

Cissus verticillata (L.) Nicolson & C.E. Jarvis, Seasonvine—28549; edge of coastal tropical hardwood hammock

Parthenocissus quinquefolia (L.) Planch., Virginia Creeper—28550; disturbed land

Vitis aestivalis Michx., Summer Grape—28436; scrubland

Vitis rotundifolia Michx., Muscadine—28280; disturbed land

ZYGOPHYLLACEAE (2, 2)

Kallstroemia maxima (L.) Hook. & Arn., Big Caltrop—28619; lawn

**Tribulus cistoides* L., Burrnut—28731; overgrown disturbed portion of beach; FLEPPC II

¹ We follow the nomenclature of Wunderlin and Hansen (2003), with the following exceptions. (1) We recognize eight families which they subsumed within other families. Between parentheses, after the name of each family that we recognize is listed the corresponding family in Wunderlin and Hansen (2003): Aceraceae (Sapindaceae), Asclepiadaceae (Apocynaceae), Capparaceae (Brassicaceae), Chenopodiaceae (Amaranthaceae), Empetraceae (Ericaceae), Hypericaceae (Clusiaceae), Lygodiaceae (Schizaeaceae), and Sterculiaceae (Malvaceae). (2) We include *Flaveria floridana* J.R. Johnst. within *Flaveria linearis* Lag., as did Cronquist (1980). (3) We recognize *Oxalis dillenii* Jacq. and *Urochloa subquadripara* (Trin.) R. D. Webster, as did Weishaupt (1971) and Wipff and Thompson (2003), respectively. Wunderlin and Hansen (2003) subsumed these species into *Oxalis corniculata* L. and *Urochloa distachya* (L.) T. Q. Nguyen, respectively. (4) We recognize varieties of *Conocarpus erectus* L., *Digitaria ciliaris* (Retz.) Koeler, and *Paspalum setaceum* Michx., as did Long and Lakela (1976), Wipff (2003), and Allen and Hall (2003), respectively. Wunderlin and Hansen (2003) did not do so. (5) We recognize *Digitaria filiformis* var. *villosa* (Walter) Fernald, as did Wipff (2003) but not Wunderlin and Hansen (2003). (6) We apply the name *Ruellia brittoniana* Leonard to the species that Wunderlin and Hansen called *Ruellia tweediana* Griseb. (7) *Persea borbonia* was problematical on Marco Island. Wunderlin and Hansen (2003), Long and Lakela (1976), and Wofford and Pearman (1975) distinguished between *Persea borbonia* var. *borbonia* (Red Bay) and *Persea borbonia* var. *humilus* (Scrub Bay) (or between taxa synonymous with these varieties), based on differences in abaxial pubescence of the foliage leaves. Our collections exhibited a spectrum of pubescences that were sometimes intermediate and not readily matching either variety. Thus, we do not recognize varieties of *P. borbonia*.

² Ms. Martha McCombs contributed importantly to SWF; hence, on the label of each herbarium sheet from SWF George Wilder's name and Martha McCombs' name precede the collection number of each specimen, a circumstance not duplicated in this Appendix.

³ Data for previous collections were compiled from Virtual Herbarium (2008), New York Botanical Garden (2008), Gann et al. (2002), Wunderlin and Hansen (2008), and Mr. John Kunzer of USF (pers. comm., 1 Dec 2008). Gann et al. (2002) concluded that three species were apparently collected on Marco Island: *Indigofera trita*, *Juncus repens*, and *Solidago tortifolia*. Gann et al. (2002) listed the years or the range of years of collection, but not precise collection dates.

APPENDIX II

Tabulation of inventories compiled during this study, of native taxa growing in selected site(s) within each of the six main kinds of natural habitats remaining on Marco Island. An **X** signifies the presence of a taxon within a kind of habitats when all selected site(s) of that kind are represented, collectively (each of HZ, WZ, MANG, PF). A fraction also signifies the occurrence of a taxon in a kind of habitats (each of CTHH, SCR); the numerator indicates the number of selected sites exhibiting that taxon, the denominator signifies the total number of selected sites investigated (7 sites from CTHH; 6 sites from SCR). *Asimina* sp., *Ficus* sp., *Galactia* sp., *Mikania* sp., *Rhynchosia* sp., and *Smilax* sp. represent individuals not identifiable to species, because of sterility or based on other deficiencies; these individuals might belong to other taxa listed separately, herein. **HZ** = herbaceous zone of coastal strand vegetation; **WZ** = woody-plant zone of coastal strand vegetation; **MANG** = mangrove habitat; **CTHH** = coastal tropical hardwood hammock; **PF** = pine flatwoods; **SCR** = scrubland.

TAXON	HZ	WZ	MANG	CTHH	PF	SCR
<i>Acer rubrum</i>					X	
<i>Acrostichum aureum</i>			X			
<i>Acrostichum danaeifolium</i>			X	1/7		
<i>Alternanthera flavescens</i>	X	X	X			1/6
<i>Ambrosia artemisiifolia</i>	X	X				
<i>Ampelopsis arborea</i>					X	
<i>Andropogon glomeratus</i>	X	X				1/6
<i>Andropogon ternarius</i>						1/6

TAXON	HZ	WZ	MANG	CTHH	PF	SCR
<i>Andropogon virginicus</i>	X	X				1/6
<i>Ardisia escallonioides</i>				4/7		1/6
<i>Aristida condensata</i>						1/6
<i>Aristida patula</i>	X					
<i>Aristida purpurascens</i>	X					3/6
<i>Asimina</i> sp.						2/6
<i>Atriplex cristata</i>	X					
<i>Avicennia germinans</i>	X		X			
<i>Baccharis glomeruliflora</i>					X	
<i>Baccharis halimifolia</i>		X	X	1/7		
<i>Bacopa monnieri</i>			X			
<i>Batis maritima</i>			X			
<i>Bidens alba</i>	X	X				2/6
<i>Blechnum serrulatum</i>			X	2/7	X	
<i>Blutaparon vermiculare</i>	X		X			
<i>Borrchia frutescens</i>			X			
<i>Buchnera americana</i>	X					
<i>Bulbostylis ciliatifolia</i>						6/6
<i>Bulbostylis stenophylla</i>						2/6
<i>Bursera simaruba</i>	X	X		7/7	X	4/6
<i>Caesalpinea bonduc</i>	X	X	X	1/7		
<i>Callicarpa americana</i>				7/7	X	5/6
<i>Canavalia rosea</i>	X	X				
<i>Cassytha filiformis</i>					X	6/6
<i>Cenchrus spinifex</i>	X	X				6/6
<i>Centrosema virginianum</i>	X					2/6
<i>Chamaecrista fasciculata</i>	X	X				6/6
<i>Chamaecrista nictitans</i> var. <i>aspera</i>	X					
<i>Chamaesyce blodgettii</i>	X					
<i>Chamaesyce bombensis</i>	X					
<i>Chamaesyce cumulicola</i>						4/6
<i>Chamaesyce mesembrianthemifolia</i>	X					
<i>Chiococca alba</i>		X	X	5/7		
<i>Chrysobalanus icaco</i>	X	X	X	6/7	X	3/6
<i>Chrysophyllum oliviforme</i>				5/7	X	
<i>Chrysopsis scabrella</i>						1/6
<i>Cissus verticillata</i>			X	1/7	X	
<i>Cladium jamaicense</i>					X	
<i>Coccoloba uvifera</i>	X	X	X	4/7		1/6
<i>Commelina erecta</i>	X	X				1/6
<i>Conocarpus erectus</i>		X	X			
<i>Conocarpus erectus</i> var. <i>sericeus</i>			X			
<i>Conyza canadensis</i>	X					1/6
<i>Coreopsis leavenworthii</i>	X					
<i>Crinum americanum</i>				4/7		
<i>Crotalaria rotundifolia</i>	X					
<i>Croton glandulosus</i> var. <i>floridanus</i>	X	X				3/6
<i>Croton glandulosus</i> var. <i>glandulosus</i>	X					
<i>Cynanchum angustifolium</i>	X					
<i>Cyperus croceus</i>						1/6
<i>Cyperus ligularis</i>	X	X		1/7		1/6
<i>Cyperus polystachyos</i>	X					
<i>Cyperus retrorsus</i>	X	X				6/6
<i>Cyperus tetragonus</i>				1/7		
<i>Dalbergia ecastaphyllum</i>	X	X	X	3/7		

TAXON	HZ	WZ	MANG	CTHH	PF	SCR
<i>Dichantheium aciculare</i>						3/6
<i>Digitaria filiformis</i>	X	X				
<i>Distichlis spicata</i>			X			
<i>Encyclia tampensis</i>				5/7		
<i>Eragrostis elliotii</i>	X	X				
<i>Ernodea littoralis</i>	X	X				
<i>Erythrina herbacea</i>				4/7		1/6
<i>Eugenia axillaris</i>				6/7		
<i>Eugenia foetida</i>				3/7		
<i>Eupatorium serotinum</i>			X			
<i>Eustachys petraea</i>	X	X				2/6
<i>Ficus aurea</i>			X	5/7		
<i>Ficus sp.</i>		X		2/7	X	1/6
<i>Fimbristylis caroliniana</i>	X	X				
<i>Fimbristylis cymosa</i>	X	X	X			1/6
<i>Fimbristylis spadicea</i>	X		X			
<i>Flaveria linearis</i>	X	X				
<i>Forestiera segregata</i>		X		1/7		
<i>Gaillardia pulchella</i>	X					
<i>Galactia elliotii</i>					X	1/6
<i>Galactia regularis</i>						1/6
<i>Galactia sp.</i>						3/6
<i>Galactia striata</i>				1/7		
<i>Galactia volubilis</i>	X	X				
<i>Galium hispidulum</i>				1/7	X	2/6
<i>Gaura angustifolia</i>	X	X				
<i>Helianthus debilis</i> subsp. <i>debilis</i>	X	X				
<i>Heliotropium polyphyllum</i>	X	X				
<i>Heterotheca subaxillaris</i>	X	X				4/6
<i>Hippocratea volubilis</i>				1/7		
<i>Hymenocallis latifolia</i>	X	X				
<i>Ipomoea alba</i>	X		X			
<i>Ipomoea indica</i>	X	X	X			
<i>Ipomoea pes-caprae</i>	X					
<i>Ipomoea violacea</i>			X			
<i>Iresine diffusa</i>	X	X		2/7		2/6
<i>Iva imbricata</i>	X	X				
<i>Laguncularia racemosa</i>	X		X			
<i>Lantana involucrata</i>		X		1/7		
<i>Liatris tenuifolia</i>						1/6
<i>Licania michauxii</i>						5/6
<i>Lipocarpa micrantha</i>	X	X				
<i>Lycium carolinianum</i>			X			
<i>Lyonia fruticosa</i>						4/6
<i>Melothria pendula</i>			X			
<i>Mikania scandens</i>			X			
<i>Mikania sp.</i>					X	
<i>Mitreola petiolata</i>	X					
<i>Morinda royoc</i>				2/7		
<i>Muhlenbergia capillaris</i> var. <i>filipes</i>	X	X				
<i>Myrcianthes fragrans</i>		X		4/7		
<i>Myrica cerifera</i>		X		2/7		1/6
<i>Nephrolepis exaltata</i>				1/7		
<i>Oenothera humifusa</i>	X					
<i>Oplismenus hirtellus</i>				3/7		

TAXON	HZ	WZ	MANG	CTHH	PF	SCR
<i>Opuntia humifusa</i>	X	X				6/6
<i>Osmunda regalis</i>					X	
<i>Palafoxia feayi</i>						6/6
<i>Panicum amarum</i>	X					
<i>Paronychia americana</i>						1/6
<i>Parthenocissus quinquefolia</i>	X	X	X	5/7		2/6
<i>Paspalum setaceum</i> var. <i>ciliatifolium</i>	X					
<i>Paspalum setaceum</i> var. <i>rigidifolium</i>						2/6
<i>Paspalum setaceum</i> var. <i>stramineum</i>		X				1/6
<i>Paspalum setaceum</i> var. <i>villosissimum</i>						1/6
<i>Paspalum vaginatum</i>	X					
<i>Passiflora suberosa</i>				3/7	X	
<i>Pentalinon luteum</i>		X				
<i>Persea borbonia</i>				6/7		5/6
<i>Phlebodium aureum</i>				5/7	X	
<i>Phyla nodiflora</i>	X					
<i>Physalis angustifolia</i>	X	X				2/6
<i>Phytolacca americana</i>				2/7		
<i>Pinus elliotii</i>					X	1/6
<i>Piriqueta cistoides</i>	X					
<i>Piscidia piscipula</i>	X	X	X	6/7		
<i>Pithecellobium unguis-cati</i>				4/7		
<i>Pityopsis graminifolia</i>						1/6
<i>Pleopeltis polypodioides</i>				5/7		
<i>Pluchea odorata</i>			X			
<i>Plumbago scandens</i>				2/7		1/6
<i>Poinsettia cyathophora</i>	X	X				2/6
<i>Polanisia tenuifolia</i>						5/6
<i>Polygala grandiflora</i>	X	X				
<i>Polygonella polygama</i> var. <i>brachystachya</i>						4/6
<i>Polypremum procumbens</i>	X	X				
<i>Prunus caroliniana</i>						1/6
<i>Psilotum nudum</i>				3/7		
<i>Psychotria nervosa</i>				7/7	X	4/6
<i>Pteridium aquilinum</i> var. <i>caudatum</i>				1/7		
<i>Pteridium aquilinum</i> var. <i>pseudocaudatum</i>				2/7	X	
<i>Quercus chapmanii</i>				1/7		3/6
<i>Quercus geminata</i>						6/6
<i>Quercus myrtifolia</i>						6/6
<i>Quercus virginiana</i>		X		6/7	X	2/6
<i>Randia aculeata</i>		X	X	7/7		
<i>Rapanea punctata</i>		X	X	7/7	X	2/6
<i>Rhabdadenia biflora</i>			X	3/7		
<i>Rhizophora mangle</i>	X		X			
<i>Rhus copallinum</i>		X		1/7		6/6
<i>Rhynchosia cinerea</i>	X					
<i>Rhynchosia</i> sp.						1/6
<i>Rhynchospora colorata</i>	X					
<i>Rhynchospora megalocarpa</i>						1/6
<i>Rivina humilis</i>				5/7		2/6
<i>Sabal palmetto</i>	X	X	X	7/7	X	1/6
<i>Salix caroliniana</i>					X	
<i>Samolus ebracteatus</i>	X	X				
<i>Sarcocornia perennis</i>			X			
<i>Sarcostemma clausum</i>			X		X	

TAXON	HZ	WZ	MANG	CTHH	PF	SCR
<i>Scaevola plumieri</i>	X	X				
<i>Schoepfia chrysophylloides</i>				5/7		
<i>Scleria ciliata</i> var. <i>curtissii</i>						1/6
<i>Scleria triglomerata</i>						3/6
<i>Serenoa repens</i>	X			5/7	X	6/6
<i>Sesuvium portulacastrum</i>	X		X			
<i>Setaria corrugata</i>						3/6
<i>Seymeria pectinata</i>						1/6
<i>Sida acuta</i>		X				1/6
<i>Sideroxylon celastrinum</i>	X	X	X	5/7		
<i>Sideroxylon foetidissimum</i>				5/7		
<i>Sideroxylon tenax</i>				1/7		5/6
<i>Smilax auriculata</i>	X	X			X	5/6
<i>Smilax bona-nox</i>				1/7		
<i>Smilax</i> sp.				4/7		1/6
<i>Solanum americanum</i>			X			
<i>Solidago odora</i>						2/6
<i>Solidago sempervirens</i>	X	X	X			
<i>Sophora tomentosa</i> var. <i>truncata</i>	X	X				
<i>Sorghastrum secundum</i>						1/6
<i>Spartina patens</i>	X					
<i>Spermacoce assurgens</i>		X				
<i>Sporobolus domingensis</i>	X		X			
<i>Sporobolus virginicus</i>	X					
<i>Stipulicida setacea</i> var. <i>lacerata</i>						1/6
<i>Suaeda linearis</i>	X		X			
<i>Suriana maritima</i>	X	X				
<i>Tillandsia balbisiana</i>				4/7		
<i>Tillandsia fasciculata</i>		X	X	5/7		3/6
<i>Tillandsia flexuosa</i>			X	1/7		3/6
<i>Tillandsia paucifolia</i>			X	1/7		1/6
<i>Tillandsia recurvata</i>			X	4/7		5/6
<i>Tillandsia setacea</i>			X	6/7		
<i>Tillandsia usneoides</i>		X	X	5/7		4/6
<i>Tillandsia utriculata</i>			X	3/7		3/6
<i>Tournefortia volubilis</i>				1/7		
<i>Toxicodendron radicans</i>	X	X	X	7/7	X	1/6
<i>Trichostema dichotomum</i>	X	X				
<i>Trichostigma octandrum</i>				1/7		
<i>Triplasis americana</i>						1/6
<i>Triplasis purpurea</i>	X					1/6
<i>Uniola paniculata</i>	X	X				
<i>Vaccinium myrsinites</i>						1/6
<i>Verbesina virginica</i>	X					
<i>Vigna luteola</i>	X	X				
<i>Vitis aestivalis</i>				3/7		1/6
<i>Vitis rotundifolia</i>		X	X	7/7	X	6/6
<i>Vittaria lineata</i>				4/7		
<i>Waltheria indica</i>	X	X				
<i>Woodwardia virginica</i>					X	
<i>Ximenia americana</i>				3/7		5/6
<i>Yucca aloifolia</i>	X	X		1/7	X	
<i>Zanthoxylum fagara</i>				4/7		

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We dedicate this paper to environmentally concerned citizens of Marco Island, with the hope that it will foster increased appreciation and understanding of their botanical heritage.

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